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BALTIMORE, MAY 19, 1899.

New York Complaining.

The interstate commerce commission began at New York on Monday an investigation of the export rate situation and the alleged manipulation of export grain tariffs complained of by New York merchants against the eastbound lines to Baltimore, Newport News and other ports on the Atlantic seaboard. The more frequently it is investigated the more clearly does it seem to be demonstrated that the condition complained of, if it exists, is largely the fault of New York itself. This fact was brought out in the testimony of Mr. Nathan Guilford, general traffic manager for the New York Central & Hudson River Railroad. He explained that the fixing of rates for domestic use was determined by the amount of competition reaching the point for shipment, while the export rate was subject to competition extending from the Canadian lines to Galveston. He said that New York should be the most important export point on the Atlantic coast, as more steamship lines made use of its harbor than any other harbor on the coast. A great disadvantage of New York, however, he added, was the difficulty in getting grain into the hold of the vessels after it had reached that city. He said:

The disadvantage New York is working under is due to the fact that while we are able to place our cars on floats and send them down to the steamship side, yet there the lack of proper elevator facilities appears. The floating elevators are not able to transfer the grain direct from the cars to the ship. This necessarily requires a double transfer, which requires an extra rate of a cent and one-quarter a bushel. In Baltimore and Newport News the steamships load directly from the elevators and no extra charge is required. The steamship companies own their own piers here, and they won't go to an elevator. Then, too, we are unable to get freight directly alongside the ship, as in Baltimore or Newport News, where the steamship piers are in reality a part of the railroad freight-yards.

Mr. Guilford added that the development of the Gulf ports had proved an important factor in reducing the export traffic rates.

There the thing is in a nutshell, without a squint toward grain at the Gulf or winter-load line on the Atlantic. Mr. Guilford believes, and his belief is shared by disinterested persons, that there has been successful competition with New York, because ports like Baltimore and Newport News have bet-

ter facilities than New York for handling the grain promptly, and because the growth of Gulf ports has diverted grain into their direction. The interstate commerce commission found in Chicago a sentiment similar to that of New Yorkers regarding the importance of the Gulf ports. These facts indicate a growing unanimity of opinion about those ports. They will do well to take courage and to make stronger exertions than ever before to render that opinion incontestable.

Textile Competition.

Fifty years ago, when the South began to be a cotton manufacturer, eminent citizens of other parts of the country were accustomed to advise the South against such an undertaking. Later, when the absurdity of the advice had been thoroughly demonstrated, the tune was altered and there were prophetic notes that the South would make a mistake in attempting anything beyond simpler operations. In what must appear to advisers and prophets utter rashness, the South has continued to advance. Now, there is another tune of two notes. One of these is, "The South is building too many mills." The others is, "What one mill may succeed in doing would be dangerous for others to undertake." For example, Mr. Arnold B. Sanford of Massachusetts, who has just returned from a visit to Chattanooga, discussing the proposed cotton-yarn mills at Chattanooga, is quoted by the Boston Transcript as follows:

The conditions essential to yarn spinning in such numbers as are proposed by the new Chattanooga and Cloverdale mills are not to be met with generally in the South, and I hope that the feeling will not spread there that, except in a comparatively few cases, it would be found practicable. There are, however, some established mills, like the one at Cloverdale, where the help has attained a high state of efficiency and can be trusted to manipulate the finer machinery needed for making combed yarns, and the owners are taking chances in putting in the suitable machinery. There are localities where the help is more intelligent than in others, and where Northern managers, superintendents and overseers are contented to take up their residence. * * * It will be a long while before one can start a mill for fine medium yarns in the South outside of the localities where the conditions approximate those in the North with any degree of certainty as to succeeding.

A second example is offered in the words of the Providence Journal as follows:

The South must know that in the North the manufacturing business has already reached a high stage of development. The building of plants has been going on here at a rapid rate for many years, and today our manufacturers comprehend that they have little chance of making new concerns profitable with old lines of goods. But it remains to be seen if the new mills in the South will not suffer worse than those well-established ones in the North in the competition of the next few years. We do not care for more plants in the North just at present, because it is certain that those already in existence press one another hard for business. The South may soon find that it has too many for its own interests.

But such opinions are not the only ones held in the North about the South-

ern situation. The Boston Journal, which calls attention to the fact that some New Englanders have cherished a comfortable idea that the South could never make anything but coarser yarns and fabrics, but which regards the Chattanooga enterprise as a sign of the times, says:

Manufacturers must be vigilant and employes must be reasonable up here in our Northern States if New England would retain that leadership in the textile arts which has been ours for three-quarters of a century.

The Philadelphia Manufacturer asserts that the Northern manufacturer, if well advised, "is forced to conclude that there are conditions at hand today in the South which peculiarly fit that section for competition with the North and with the world in the manufacture of nearly all lines of cotton goods," while the Fall River Herald believes that it is not Southern competition which threatens the cotton industry of the North, but Southern and Northern overproduction. Should there be such a threat the logical escape from the danger has been set forth by Mr. D. A. Tompkins of Charlotte, N. C. In a speech the other day before the Southern Cotton Spinners' Association he said that the question now was not of competition between the North and the South, but rather of competition between the rest of the world and the United States. He showed that the United States manufacture about one-fourth of this country's cotton, and asserted that they would continue to manufacture one-fourth, leaving England and Germany to supply the world with goods made from American cotton if the North and the South were to enter into a cut-throat competition for domestic trade. He recommended that New England, Pennsylvania, Maryland and other Southern States should co-operate to secure legislation whereby our foreign trade may be enlarged.

There is wisdom in Mr. Tompkins' remarks. Much valuable energy may be expended in a rivalry within a limited market. The same energy exerted for the promotion of common interests in a wider market will undoubtedly have a beneficial effect both North and South. Still, it cannot be denied that whatever the policy to be pursued, the probability is that the center of the cotton industry must lie near the cotton field. New England may regard that as Southern competition. New England, though, will be obliged in justice to acquit the South of any intent save that of doing its best to take advantage of its natural opportunities for successful textile work, and considerable New England capital will be found co-operating with Southern capital in that work.

The issue of May 3 of the Greensboro Patriot was a special illustrated edition of twenty-eight pages. In it were set forth the many advantages of that thriving North Carolina town and its vicinity, no better evidence of its progress being presented than the Patriot itself.

Hope for Texas.

The senate of Texas, having with a great deal of painstaking ardor perfected a bill for the suppression of octopuses, jabberwocks and other such financial monstrosities, a bill through which it is thought the courts may easily drive their horses six abreast whenever the humor strikes them, found its first critics in its co-ordinate body, the lower house. That body did not think the measure perfect enough, and apparently compassed the horizon with its drag-net upon the principle that it were better for one hundred persons to suffer than for one guilty to escape. One of its marvelous amendments may be designated as an attempt to legalize theft. Missouri has a law which does not even seem to satisfy the Solons of that State, which relieves persons buying goods from a trust from paying for them. An amendment on similar lines having for its object the prevention of manufacturers of trust-made goods and dealers in them from obtaining assistance in the courts in collecting accounts opened with purchasers of such goods, was offered in the Texas house. This proposed amendment was not strenuous enough, so a substitute was adopted providing that in addition to depriving trusts and monopolies of a defense in action for debt, purchasers of any commodity handled by them could, after paying cash for such commodity, recover the amount of cash they may have paid, the presumption from the context of the dispatch announcing such intention being that the purchaser could at the same time keep the goods.

Without entering into a discussion of the ethics of such trade standards, whether they involve merely the obtaining of goods under false pretense or the assistance of courts in virtual robbery, one may inquire the meaning of all this hubbub in Texas. Light is turned upon this question by at least a couple of Texas newspapers which have not lost their heads. Writing close to the scene of action, the Austin correspondent of the Dallas-Galveston News, a man who has a national reputation for judgment in observation, and in accuracy in expressing an opinion, says:

The feeling which was observable in the senate when the matter was under consideration there is now observable in the house. Among so large a body of men there is, of course, an opposition to the bill in any shape or form. But everyone claims to favor the passing of an anti-trust bill, and hence on the surface appears not the least sign of a disposition to fight. In truth every amendment and every word uttered are in line of chinking every crack through which a trust could possibly creep out. The cry on every side now is "down with the trusts," and from all appearances when the legislature gets through its work of trying to kill them off the Texas statute books will contain a law which will be as severe as the ingenuity of a legislature can make it. The people of the State can make up their minds to that. As an illustration of the growth of the idea that the law shall be far-reaching and severe, it is hardly an exaggeration to say that the insurance companies, which appeared to be the game for

which the gun was first loaded, are now rarely mentioned. Indeed, trusts and commissions of all kind seem to be considered small fry, and the disposition seems to be to harpoon the whales known as the monopolies, such as the Standard Oil, sugar, whiskey and tobacco monopolies. Strange as it may sound, a member of the house is just as anxious to please his people as a senator or member of the House of Representatives of the United States who wants to be elected, and the election is at hand. The members of the Texas house of representatives feel that the public is not entirely satisfied with them on account of their remaining here in Austin. Here they think is an opportunity to obtain forgiveness, for if they will pass a severe law against trusts, the people will agree that it was well that they should have remained to consummate a bit of legislation so greatly demanded.

An elaboration of this theory appears in the San Antonio Daily Express. Warning against the dangers of radical legislation, it says:

Each so-called anti-trust member of the legislature seems ambitious to exceed his predecessor in the extravagance of his anti-trust recommendations and in the ferocity of denunciation of trusts of every kind and degree. The people, of course, want to be protected against combinations of any kind designed to do them injustice, but this recent effort to conjure up a trust bogymen to frighten the unthinking classes is not deceiving any who keep posted on the trend of events.

The whole thing is largely a politicians' maneuver. The people were getting along very well and without feeling the "crushing tyranny" of trusts until word was sent along the line that the trust question was to be made a leading issue in the forthcoming presidential campaign. It is said for the purpose of overshadowing the silver question, and at once the agitation was started in Arkansas, the home of the national democratic chairman, followed by Missouri and Texas. There had been no public expressions by the people, no petitions to the legislature in behalf of anti-trust legislation—merely comment upon the growth and power of trusts and suggestions of action to prevent abuses of the powers the trusts might possess; but all at once an uproar was made, and the "oppression and robbery" was found to be so great that it was deemed best to paralyze commerce and industry, court general bankruptcy and deprive the people of many of the absolute necessities of life and trade in order to "throttle the monsters" alleged to be preying upon the vitals of the people. It was after the initiative in the legislature that the people began to meet in various parts of the State to resolve and petition against trusts, and politicians and officeholders were the prime movers in these organizations, not the business men of the State. . . . In formulating legislation designed to prevent abuses of the powers the trusts may have obtained, that prudence and moderation characterizing practical statesmanship should at all times be observed lest the interests of the public be defeated, rather than subserved, in the application of a drastic remedy more harmful in its results than the evil complained of.

These sentiments indicate that Texas legislators are suffering, not so much from overheated imaginations as from a desire to placate a tired body of constituents. They also indicate that common sense has a chance for innings in Texas, and that if sustained by the substantial interests of the State will ultimately accomplish its perfect work, while the people of the State will stand aghast at the memory of the legislative climax of 1890.

Capital and Grit Needed.

[Special Cor. Manufacturers' Record.]

Wilkesboro, N. C., May 13.

We are to have a new industry in our neighboring town, North Wilkesboro. It is a mill for sawing white-oak staves specially for the Standard Oil Co. Cowles & Cozad are the proprietors. All the machinery has been purchased and is being shipped from Cleveland, Ohio. Other machinery for the manufacture of specialties will be added later. All that is lacking to make these towns a manufacturing center is a little capital and more of the right kind of grit to work up

the immense timber supply of this section into furniture, freight cars, stock cars, wagons, barrels and other things. There are large deposits of clay which may be worked into pipes, tile, brick and pottery. Power to drive all machinery may be derived by electrical transmission from the falls of Readiers river, about a mile distant. Other power may be similarly derived from the Yadkin river, twelve miles away.

PADUCAH'S INDUSTRIES.

Seeking Additions to Those Already in Operation.

[Special Cor. Manufacturers' Record.]

Paducah, Ky., May 13.

Paducah enjoys the peculiar distinction of never having had a boom nor a panic. The business men have been too busy and too conservative to take hold of wild schemes, and the years of 1889-91 witnessed no excitement here, not even in real estate, while the years of 1893-94 were the most prosperous Paducah has ever known, excepting the present year, for at no time have the prospects of this city been brighter than they are now.

Among the permanent improvements now in progress are the erection of a large coal elevator for the Paducah Coal & Mining Co. and the new buildings of the Seamon Heading Factory, both of which plants were destroyed by fire some weeks ago. The Catholic denomination is erecting a \$50,000 church building, and a number of large structures are being contemplated. The new cannery factory is now ready for business, and its prospects are for a most successful season.

The Commercial Club reports that it has favorable correspondence with two large handle factories, a knitting mill, a wheel factory and a cotton factory, all of which are seeking locations in the South. The splendid advantages of this city as a manufacturing and distributing point are attracting the attention of Northern manufacturers, and the coming year will undoubtedly see the location here of many new industries. There is not a desirable vacant building in Paducah of any kind, and every manufacturing concern reports more business than it can handle.

Paducah especially desires factories for the working up of its raw timber, iron industries and textile mills, and, considering our advantageous freight rates, our abundance of raw material and our nearness to the largest and best market in the United States, as well as our splendid export facilities, there is no reason why Paducah should not be one of the largest manufacturing centers in the South.

STUDIED BY CAPITALISTS.

Southwest Virginia Mineral Resources Under Investigation.

[Special Cor. Manufacturers' Record.]

Roanoke, Va., May 13.

I stated in a former communication to the Manufacturers' Record that representatives of Northern capitalists were expected here to examine into the merits of some mineral deposits with a view to purchase. The parties are now in this vicinity, and are spending considerable money in the development of properties on which they have taken options. They are seeking options on other properties also, and seem well pleased with the prospect of good deposits of iron, zinc and other ores in this section. At present, with the development and showing made, both as to quality and quantity of the ores, they expect to close their options by a purchase of the properties very soon.

The Norfolk & Western Railway Co. is projecting several branch roads from the main line, thereby opening to profitable development some sections rich in timber

and mineral resources. It is believed that there are good deposits of lead, copper, zinc, silver and gold in the sections through which some of these branches will run.

The Virginia Coal, Iron & Coke Co. is vigorously working some of the properties recently purchased by them, and have a large force at work on some leased properties, opening tunnels and making ready to ship large quantities of ore to their furnaces as soon as necessary repairs will permit them to go in blast.

In Roanoke city there are more signs of business activity than have been witnessed in the last six years. Merchants are enlarging their trade and real estate is being improved, while many new residences and business buildings are either under construction or contemplated in the near future. Confidence in the future has been restored, and the hesitancy of a few years since has disappeared.

Our Board of Trade is working, with good prospects of success, to secure the location of some manufacturing industries here. H.

SHORTAGE OF MATERIAL.

Activity in the German Iron and Steel Markets.

[Special Cor. Manufacturers' Record.]

Berlin, Germany, May 4.

The condition of the German iron and steel trade has become more intensely active since I wrote my last letter to the Manufacturers' Record. At a recent meeting of the Verein Deutscher Eisenhüttenleute at Dusseldorf the president stated that it was impossible for iron and steel mills to meet demands, in spite of the most intense exertions they could put forth.

The shortage of materials has become more marked and more general. There is a scarcity not only of ore, pig iron and half-finished material, but also of coke and coking coal. One of the pig-iron syndicates, as they call industrial combinations here, is not able to deliver the amount of goods it had contracted to furnish, the shortage for the second half of the year being estimated at 80,000 tons. In the haste to provide themselves with material so far into the future as possible the rolling mills and other makers of finished goods are trying to make contracts for raw material for the whole of next year, but in some lines the producers of such materials refuse to bind themselves for so long a period in advance except upon the stipulation that an increase of prices may be made upon certain conditions. The wire manufacturers have been so eager in placing orders for next year that already a shortage of about 100,000 tons of wire stock for 1900 is announced. Even now the wire mills fail to get the amount of stock contracted for, the deliveries amounting often to only two-thirds and in some cases even to only one-half of the quantities ordered.

Another sign of the times is the revival of the puddling process, which has been falling more and more into "innocuous desuetude" as the open-hearth process came to the front. Now the scramble for material has created a new demand for puddled iron, and the few old puddling furnaces that remain are being put into operation. The puddlers, however, have nearly all died off under the modern order of things, and it is difficult to induce other iron workers to turn to the hot and exhausting labor of the puddler.

Provision for the future is being made also in coal and coke. The coke syndicate has sold all its product to the end of 1900 at fixed prices, and the coal syndicate has orders for all its product till April 1, 1900, and refuses to bind itself

for a longer period. A characteristic movement of the time is the attempt of iron and steel companies to absorb coal mines in order to control their own supply of coal and coke. Several such amalgamations have been made within six months and a still greater number are in the air; indeed, rumors of such amalgamations have become one of the favorite dodges among speculators on the stock exchange.

The movement of prices since my last letter was written has been toward higher figures.

In connection with the general advance in prices it has been remarked here that prices have not been pushed up so violently in those branches in which the product is controlled by syndicates as in those in which there is free competition. Particularly has it been noted that the price of bar iron has advanced very sharply, and bar iron is one of the few products of the trade not controlled by a syndicate. Indeed, the syndicates have been pursuing a comparatively conservative policy in regard to prices, a policy dictated by the fear that a too violent advance of prices will bring the present great boom to an untimely end and cause a correspondingly violent revulsion in prices. In this way it is hoped that the syndicates will prove of immense value to business by staving off the day of hard times. Combinations of capital outside of Germany, however, are looked upon with other feelings. The great trust recently formed in the American iron and steel trades excite no little dread for the future stability of prices. The opinion is often expressed that the great American trusts will begin a career of cutthroat competition in England and Germany just as soon as production with us in the United States has again outrun consumption. This dread is intensified by the excessive capitalization of our trusts, and the opinion is expressed that these immense combinations rest upon a very shaky foundation till they have built up sufficient reserve funds as a security against less prosperous times. The newly-formed copper trust is now trying to market its securities here in Germany, but the papers pretty unanimously warn their readers against putting their money into these huge American undertakings before it has been demonstrated by time that they are on a sound basis.

The great wave of prosperity in Germany has led to intensely active speculation in the shares of industrial companies, and of late there have been immense advances in quotations. Of late, however, a tendency to violent fluctuations in prices has been manifested, which shows that the great wave of optimism that has seized upon the public can at times give place to a more pessimistic. Indeed, there is now a fear among cool judges that the wild speculation in industrials will lead to a crash.

W. C. DREHER.

Texas Real Estate Men.

The Texas Real Estate Association will have a convention at Waco, Texas, on June 13 and 14. In a letter to the Manufacturers' Record Mr. T. J. Skaggs, the secretary of the organization, which is strong in numbers and activity, writes that all the business and commercial interests, including all railroads operating in the State, will be represented, and the ablest thinkers and speakers in all lines have been invited to participate. The occasion is expected to be a grand rally in Texas commercial interests.

The business men of Natchez, Miss., are sending out a little souvenir guide of the city and the county in which it is situated.

SITUATION MORE ACUTE.

Yet There Is No Excitement in the Birmingham Iron Market.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., May 15.

The iron market the past week was a good one, but the demand under ordinary circumstances would have excited no remark. It is a funny market. No. 2 foundry iron sold to a fair amount at \$11.75, and at that price for certain deliveries sellers booked all they cared to enter. Some was sold at \$11.50 for cash and nearby deliveries, and one lot of special brand, which invariably commands twenty-five cents over the market, was offered at \$11.75 cash, and did not elicit a positive bid at even \$11.50. Yet buyers of basic iron were keen buyers at prices offered, and took all they could get at \$11.50. If basic iron brings \$11.50, then No. 2 foundry should bring over \$12. This price of \$11.50 for basic pig is the highest price it has sold at since the Tennessee Company commenced making it. Let the pessimists put that assertion in their pipes and smoke it. There were some good-sized orders for all grades. They were in magnitude sufficient to influence the leading interest here to advance prices on all grades twenty-five cents per ton. The situation grows more and more acute daily, yet there is no excitement here, for the simple reason that for spot and nearby deliveries there is so little left from the deliveries sold that it can create no interest. It is going to be difficult to supply the small buyers who are satisfied to go in for their monthly requirements once every month. The order books are now well filled up to the fourth quarter. For this quarter the business has increased and continues to increase right along, and if they were so inclined the furnaces could speedily close their books for deliveries for 1899. One can say that practically all they have to do now is to make the iron and deliver it, for it has been sold. They are not troubled at guessing whether the market will bring them a profit or loss, for they can sit down right now and calculate the close approximate profits of the business for the entire year. Just here it is learned that one lot of No. 1 foundry has been sold at over \$13 for export. Some No. 2 found a resting-place at \$12. Neither lot was large, but the figures show an improved feeling. Stocks are, as heretofore reported, simply nil. When anything now goes from the cast-house to the furnace yards it is simply because the cars are not promptly available. There is nothing going into the warrant yards, but there is a constant depletion.

The stock as officially reported in warrant yards in United States is under 70,000 tons. Of this, fully one-half of it is estimated has been bought in the interest of melters and of shippers who slipped up in overselling. It is not putting it too strong, then, to say that fully one-half, if not more, in warrant yards is provided for. The stock of iron as reported is less than has been shown in thirteen years. If scarcity produces higher prices, then higher prices will yet prevail. There is nothing to keep iron from going to \$15. You can put a peg there. Solomon said "there is nothing new under the sun." Iron has been \$15, and even higher, within the memory of the comparatively young. Why can't it be again if circumstances favor?

J. M. K.

The United Railway & Electric Co. has awarded contracts for its coal supply to the Continental Coal Co. of Baltimore.

Eastern Iron Markets.

[Special Cor. Manufacturers' Record.]
Philadelphia, Pa., May 17.

The iron trade appears to be on the eve of changes. Prices in general remain stationary. Pig iron is not to be had freely. All furnaces are so far oversold that it is no easy matter to buy iron for forward delivery. The sales made this week were at full quoted prices, but only scattering lots could be had. The foundries are all melting more iron and the pipe works have large contracts out. Bessemer pig has gone up, and forge is held at very outside figures. The present production of pig iron is a little over 13,000,000 tons per year. Within six months stocks have gone down 350,000 tons. There are now a large number of consumers who will be obliged to cover in June, and their united demands may put prices up or possibly start prices towards \$20. Quotations are the same as they have been for some weeks. The advance of billets at mills has surprised all buyers, and today they are told another advance is coming. Despite that, Eastern consumers are placing orders slowly. All the bar mills are pushing through work as fast as possible, but new car-building orders are coming in slowly. The sheet mills are booking business as fast as they care to, and galvanized and corrugated are in most request, and that in large lots. The merchant-steel manufacturers are now being pushed by Western buyers, and large contracts will probably be closed long before midsummer.

The latest reports from plate mills is to the effect that large shipbuilding orders are to be placed next month. Besides these large orders, there are urgent demands for boiler plate and ordinary tank, and also fire-box steel. The plate mills are all oversold, and business is coming along fast.

Today's reports from structural mills are encouraging. Railroad bridge building demands of large proportions are in sight, and the specifications for two or three large jobs are now in hand. Prices range from 1.60 to 1.90, according to shape.

Steel-rail orders are filling up rail mills, and some of them can run up to November, though most of our Pennsylvania mills have left gaps to be filled up by future demands.

Old rails are selling well at \$18 to \$19. Scrap is very hard to find, but when offered is picked up quickly at the outside figures heretofore quoted.

Holding Up the Round Bale.

[New York Sun.]

From a storm center of anti-monopoly, the capital of Texas, we get this news, through the New Orleans Times-Democrat:

"A bill was introduced declaring the round-bale combine a trust and absolutely forbidding them to do business in this State. The contention was the round-bale people refuse to sell their presses, and their desire is to monopolize the entire cotton-ginning and compressing business of the State. The bill is still pending."

The round bale is a great improvement over the old bale, which was square. It makes cheaper the progress of cotton from the plantation to the loom. Its inventor obtained a patent for it from the United States and a company has been organized to reap the fruits of his genius, giving all other parties concerned the necessary share in the profits which will induce them to use it in their business. This company has gone to Texas, but that imperial State is asked by one of its legislative lights to bar it from carrying

on its intended business, and to compel it to sell machines to everyone, so that all may make round bales.

If we were Texas we should be so ashamed of the legislative light aforesaid that we would banish him from the State. He would merely compel this company to let everybody make round bales, when he might just as well have kept on and proposed that everybody be permitted to make round-bale machines; that is, that the company be forced to surrender its patent.

Populism in Texas is but a feeble bud.

PUBLIC WATER SUPPLIES.

Advantages of Mechanical Filters
Demonstrated at Atlanta.

Municipal authorities of the South are giving greater attention than ever to the subject of water supplies. They realize that a city's health is largely dependent upon pure water, and they are constantly seeking information about the best means of obtaining it. In this connection a paper by Judge George Hillyer of Atlanta, Ga., before the convention of the League of American Municipalities contains some valuable suggestions for students of municipal hygiene, particularly those interested in the cities of the Southern Piedmont region. In the course of his paper he said:

"Now I frankly confess that I have had no experience with problems of water supply, sedimentation and filtration, other than in this Azoic region, and it may be true that the good results we have obtained in my own city and others contiguous would not follow with the same appliances in a limestone region. But I do know that whenever and wherever the turbid waters of the rivers of the red-clay and granite freestone region I have described are gathered in an impounding reservoir of sufficient size to afford time and opportunity for sedimentation, with a good mechanical filter plant and clear-water basin interposed between the impounding reservoir and the pumps by which the water is carried into the town or city, that the best results have followed. With our appliances * * * the red water of the Chattahoochee is made clean and clear as crystal when delivered to our people in the city, and its excellent quality after manipulation is shown by analysis constantly made under the direction of the board of health, an authority wholly distinct and independent of our water department.

"The Chattahoochee river is seven miles from the city, and Atlanta being on the high ridge dividing the waters of the Gulf from those of the Atlantic, the water has to be lifted 500 feet. We have two pumping stations, the office of one of which at the river bank is to lift the water from the river into an impounding reservoir, approximately of twenty-three acres at the surface and forty-five feet deep. The pumps at the river have a capacity of 20,000,000 gallons daily. This impounding reservoir holds thirty days' supply, or 185,000,000 gallons. Whenever the river gets specially muddy we stop the pumps at the river station, the city being supplied in the meantime out of the very large reserve accumulated in the reservoir. Then as soon as the river is again in fair condition the pumps are started and produce a flow into the impounding reservoir four times as rapid as the consumption. The reservoir is rapidly filled again with the better class of water and kept full until by recurring rains it again becomes too muddy, when the same process is repeated. I regard an ample settling reservoir, holding from twenty to forty days' supply, as essential to every filter system. Its office is to prepare the river water beforehand, and to make the

work of the filters easier and cheaper by requiring less alum, and they have to be washed less frequently. There is no necessity to cover the reservoir, as the coloring matter excludes the light and prevents algae and other hurtful growths.

"At the margin of our impounding reservoir, and between it and the city, are located the filter plant, the clear-water basin and the pumps of the second station. The filters are those of the Hyatt patent. The clear-water basin holds 1,000,000 gallons, and being emptied four or five times daily, we have never been troubled with algae or any noxious growths."

Judge Hillyer discussed the use of meters and the excellent results obtained from them, especially their making it possible to filter the entire water supply, and regarding the filters said:

"The action of the infinitesimal quantity of alum we find it necessary to use in Atlanta is rather mechanical than chemical. It merely acts as a coagulant, and the flocules formed in the process, consisting of what little alum there is, combined with the coloring matters, becomes entangled in the filter bed, remains there and goes out into the draught when the filter is washed, and thus it is found that in our experience the rigid and constant analysis made of the water pumped into the city almost invariably shows a total absence of alum, and never in any single instance has shown more than what chemists call a trace, as absolutely innocuous as if there were none at all.

"Long experience in these matters induces the belief in my own mind, shared by all of our officials who have given the subject attention, that with our water and under our conditions the mechanical filter is a complete success. We have one set known as the open filter; the others are closed; but all operate by gravity under thirty feet head. It is hard to tell which of the two is preferable. The closed filter makes the neater plant, and is easier to operate. But one of the closed filters does as much as two of the open ones, simply because it lies down on one side, whereas the open one stands on end. Thus the former gives nearly or quite double-filter surface.

"As between mechanical filters and the open sand beds, so much advocated in Europe, I have no hesitation in saying that the mechanical filter does the work equally well or better, is certain, safe and uniform in its operation, and being far more economical, both in original cost of plant and cost of operating, the mechanical filters are much to be preferred."

To Cultivate Rice.

A company has recently been organized at St. Louis which, it is understood, will enter into the business of rice cultivation on an extensive scale. It is called the Trinity Rice, Land & Irrigation Co., and is capitalized at \$260,000. It is stated that it has secured about 25,000 acres of land in Chambers county, all of which will be used in rice-growing. An extensive canal system will be built. W. C. Moore of Houston, immigration agent of the Southern Pacific, was instrumental in forming the company.

One of the most delightful and most healthful suburbs of Baltimore is Roland Park. It is distinctively a community of homes, protected from the annoyances of city life, and yet enjoying all its privileges. The location there of the Misses Howard's Home School for Girls makes the institution, therefore, one whose title is particularly appropriate. It is a Southern school where girls from the North and South have the advantages of the best environments. Miss K. E. Howard is the principal.

COMMERCE.

This department is devoted to a record of the rapidly developing commerce of Southern ports.

Extensive Railroad Terminals.

The Atlantic, Valdosta & Western Railroad Co., which is now completing its line between Valdosta and Jacksonville, Fla., it is stated, is making arrangements to establish extensive terminals on tide-water in what is known as Talleyrand, a suburb of Jacksonville, and in the city itself. A contract has been let to T. J. Brown of Brunswick, Ga., for a portion of the work. The wharves will be eighty feet wide and about 1500 feet in length, and will be built at once. The contract calls for their completion within the next three months. Four thousand piles will be required in the building of these wharves and more than 1,000,000 feet of lumber.

The contracts for the wharves on the river front in the city will be awarded in about two weeks, and the work of constructing them will be begun as soon as possible after the contracts shall be let. The plans for these wharves include three piers, each eighty feet wide, and extended from the inner shore line 400 feet into the river, depending on the establishment of the harbor line by the United States government. The slips between these piers will be from eighty to 100 feet wide and sufficient to admit two vessels side by side. Two of these piers will be covered.

The space that will be occupied by the shops is being determined by the engineers, who are now making the plans for them, but it is likely that they will require several acres and will give employment to about 200 men after their completion. A new town is to be laid out, covering about fifty acres, on which fifty or sixty cottages will be erected at once to accommodate the workmen in the shops, the freight-yards and on the wharves of the company.

The present plans of the company include the erection of two large warehouses for the storage of spirits, each having a capacity of at least 50,000 barrels. These are to be located at Talleyrand.

Business of the Gulf Ports.

A recent visitor to Washington was President Edward L. Russell of the Mobile & Ohio Railroad Co. In an interview with a reporter of the Washington Post Mr. Russell said:

"The South is enjoying a satisfactory degree of prosperity, for while the planters have received but a small price for their chief product, cotton, yet they have learned to grow it at a minimum cost, and they are freer from debt than they have been since the war. The Gulf ports are doing a splendid shipping business. Mobile is forging rapidly to the front on account of the growth of its export business. It is destined to do a big trade with Cuba and the West Indies because of its geographical situation with reference to these islands. The government has appropriated liberally for improving our harbor, and when the improvements are completed it will rank with the best in the country."

Tobacco for the West Indies.

An effort is being made at Norfolk, Va., to make that city the exporting point for tobacco-growers in Virginia and North Carolina. It is claimed that there is a market for this tobacco in Jamaica and other points in the West Indies, where it can be carried by the steamships which are now engaged in importing fruit from the points mentioned. The Sutherland-Meade Tobacco Co. of Danville, Va., has

become interested in the matter and has sent a representative to the West Indies to build up a trade if possible.

Additional Norfolk Service.

As one result of the recent visit of Sir William Johnston to this country, it is stated that the Johnston Line of steamships will considerably increase its service from Norfolk, and that from ten to twelve vessels a month will clear regularly for London, Liverpool and Continental ports. The ships to be used will be of the largest class, some of them having a cargo capacity of 9000 tons. The statement is made that the service will be increased September 1.

To Transport Coal.

It is understood that the Gilchrist Transportation Co. of Cleveland, Ohio, will engage in the coal transportation business from Newport News to Northern seacoast cities. The company, it is reported, has secured the vessels formerly controlled by the Atlantic Transportation Co. and will succeed to the latter's business. The Gilchrist Company is one of the largest operating on the lakes.

New Coaling Station.

It is announced that the government has had plans prepared for a breakwater at the mouth of the Lynnhaven river, which is about twenty miles south of Hampton Roads. It is understood that this will be made into a harbor of refuge, also a coaling station. In connection with the improvement, it is stated that a railroad will probably be built from Norfolk to this point.

Jettings at the Ports.

The steamship Westminster, which recently cleared from Baltimore, carried the largest cargo of coal ever taken from this port. It consisted of 5256 tons, and is destined for Manila for government use.

A dispatch from Macon, Ga., states that B. L. Mason of Brunswick and others are considering the formation of another steamboat company to operate a line on the Ocmulgee river, between Macon and Brunswick.

A Galveston dispatch is to the effect that fourteen steamers have been chartered to take cargoes of cattle from that port during the next month. It is estimated that fully 10,000 head will be shipped in all, a large proportion going to Cuba.

According to a dispatch from New York, the Lone Star Line of steamships, which has been running between New York and Galveston, Texas, has been sold and will be utilized between San Francisco and the Hawaiian Islands, the service between New Orleans and Galveston being discontinued.

The steamboats to be built by the Harlan & Hollingsworth Co. of Wilmington, Del., for the New York & Baltimore Transportation Co. will be 219 feet long, 32 feet beam and 13½ feet draft. Each is calculated to carry 900 tons, and will be fitted with four water-tight bulkheads. Engines will be installed to give the vessels a speed of twelve knots an hour when loaded.

Large Berry Shipments.

It is calculated that nearly 700 cars of strawberries will be transported by the St. Louis & San Francisco Company during the present season from the strawberry district in Missouri and Arkansas. The industry will give employment this year to nearly 20,000 people, as it is believed the crop will be the largest in this section of the Southwest.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

New Baltimore & Ohio Securities.

The United States Circuit Court at Baltimore has signed an order allowing a settlement of the affairs of the receivers of the Baltimore & Ohio and their discharge. According to the terms of the order the company is authorized to issue bonds, full paid and non-assessable, as follows:

Seventy million dollars par value prior lien mortgage 3½ per cent. gold bonds; \$50,000,000 par value first mortgage 50-year 4 per cent. gold bonds; \$15,000,000 par value Pittsburg and middle division first mortgage 3½ per cent. gold bonds; \$40,000,000 par value Southwestern division first mortgage 3½ per cent. bonds; \$60,000,000 par value 4 per cent. non-cumulative full-paid and non-assessable preferred stock; \$20,000,000 par value additional full-paid and non-assessable common stock. It is further ordered that Baring Bros. & Co., trustees of the sinking fund under the mortgage of the petitioner securing its loan of 1872, and J. P. Morgan & Co., trustees of the several sinking funds under the respective mortgages securing its loan of 1874 and its loan of 1877, and under the mortgage securing the 6 per cent. consolidated bonds of the Pittsburg & Connellsville Railroad Co., are directed to turn over the properties and funds in the said sinking funds. After this is done the trustees are discharged and relieved from all further liability.

It is understood that the new company will assume active control about July 1 unless further litigation should postpone the progress of the reorganization.

Work on the Choctaw & Memphis.

Mr. Henry Wood, vice-president and general manager of the Choctaw & Memphis Railroad, has removed his headquarters to Little Rock, Ark. In a recent interview Mr. Wood states that the track on the section between Little Rock and Howe, I. T., has been completed from Howe to the Arkansas State line, a distance of about twelve miles. Referring to further progress of the work, Mr. Wood says:

"The grading for the roadbed is about completed, with the exception of a very few points, and these are along the bluffs of the Arkansas river and the belt line around Little Rock. The construction work on the bridge across the Arkansas river at Little Rock has been commenced, and so far nothing has been encountered of an unusual character calculated to interrupt the laborers. I think there is little doubt that the river will be spanned by the time the rest of the road is ready for traffic.

"We have several extensive improvements in contemplation in Memphis. It is our desire to go to work on these improvements soon, and for this reason we are anxiously awaiting the authority to proceed, as the time in which we have to work before the road will be right in the city is growing short. I mean by extensive improvements that we must have a comparatively new freight house, as well as many additional switches and sidings, and all of them are necessary if we handle the business we expect to get."

Norfolk & Western Extensions.

The Norfolk & Western Railroad Co. has decided to build two branches in addition to the improvement which is now being made to its main line in the vicinity of Radford, Va. One branch is to be constructed from Radford along the New

river and tributaries to Floyd County, through a portion of Floyd county. It will be twenty-five miles long, and Charles Churchill, engineer of the company, advises the Manufacturers' Record that surveys are now being made. Another survey is under way for a branch through a portion of Carroll county to Hillsville, Va., which will connect with a branch of the Norfolk & Western now in operation to the Betty Baker coal mines.

Gulf & Interstate Sale.

At the recent meeting of the Gulf & Interstate Railroad Co. in New York it developed that the control of this line has passed into the hands of a syndicate, of which J. C. Osgood is the head. Mr. Osgood was elected vice-president of the company, while Nicholas Weekes, its present head, was re-elected. H. S. Spangler was elected manager, and E. McCarthy, treasurer. The Gulf & Interstate extends from Bolivar Point, on Galveston bay, to Beaumont, Texas, a distance of seventy miles. It is understood that it has enjoyed an extensive lumber business and has also secured considerable other freight by its arrangement with the Kansas City, Pittsburg & Gulf system.

An Economical Reorganization.

Commenting upon the reorganization of the Baltimore & Ohio, Messrs. Hambleton & Co. of Baltimore, in their weekly circular, say:

"The reorganization of the Baltimore & Ohio Railroad Co. has been accomplished with a minimum of loss to security-holders heretofore unknown in such cases. Not only have all of the bonds and stocks of the main line been well cared for, but those of the divisional and leased roads have been liberally provided for, and settlements very advantageous to holders have been accomplished. The property has in the meantime been rehabilitated, and is now in condition to accomplish the best results."

Queen Anne's Railroad Prospering.

An interesting feature of the annual meeting of the Queen Anne's Railroad Co. was a report by President William H. Bosley to the effect that the earnings for the past year show a 40 per cent. increase over the previous year. This line runs through a very productive section of Maryland and Delaware, and has a direct connection with Baltimore by steamer by way of Queenstown. It is calculated to make a specialty of excursions to the seacoast during the summer, and rolling stock has been purchased for this purpose, while the company is having a new steamboat built in order to shorten the time from Baltimore to Rehoboth Beach.

Nashville Railway Co.

The company which has acquired the Nashville street railway system has organized by electing the following officers: F. S. Hambleton, president; J. C. Bradford, vice-president; Y. P. Yeatman, secretary and treasurer; E. G. Connette, manager, and Richard Emory, superintendent. Mr. Hambleton is connected with the banking firm of Hambleton & Co. of Baltimore, and was instrumental in securing control of this property in the interest of the present company. The same firm is also largely interested in the Knoxville street railroad system.

To Enter Cincinnati.

According to a dispatch from Roanoke, Va., the Norfolk & Western Railroad Co. is endeavoring to secure control of the Cincinnati, Portsmouth & Virginia Railroad, which connects with its line in Ohio.

By this acquisition it would gain an entrance over its own tracks into Cincinnati. The Cincinnati, Portsmouth & Virginia Railroad is 111 miles in length, extending to Sciotoville, Ohio, from Idlewild, having a trackage agreement by which it enters Cincinnati. It is owned principally by Cincinnati, Philadelphia and New York parties.

Lease of Nashville & Decatur.

Arrangements have been consummated for another lease of the Nashville & Decatur Railroad to the Louisville & Nashville. An arrangement now exists between the companies, but the new lease will take effect on July 1. By the terms the bonded debt of the Nashville & Decatur will be retired by the Louisville & Nashville and stock be issued in place of it. The Nashville & Decatur Company will be capitalized at \$4,500,000, of which the Louisville & Nashville will control two-thirds.

Secured the Carolina Midland.

The latest acquisition of the Southern Railway Co., according to a dispatch from Barnwell, S. C., is the Carolina Midland Railroad, which runs from Batesburg to Allendale, a distance of seventy-two miles. This road was built by a syndicate headed by Col. Mike Brown of Barnwell. It is considered one of the most extensive short lines in the South, and would form a portion of a new road from Columbia to Savannah if the Southern decides to construct one.

Railroad Notes.

H. S. Reardon has been appointed general manager of the northern section of the Kansas City, Pittsburg & Gulf Railroad.

William B. Royster has been appointed secretary and treasurer of the Chattanooga Rapid Transit Co. of Chattanooga, Tenn.

At the annual meeting of the Georgia Railroad & Banking Co. at Augusta, Ga., Jacob Phinizy of Augusta was elected president.

At the annual meeting of the Texas Midland Railroad Co. at Terrell, Texas, President E. H. R. Green was re-elected, also Vice-President M. B. Lloyd, Treasurer T. E. Corley and Secretary J. B. Tart.

Mr. Warren J. Lynch has been appointed general passenger and ticket agent of the Cleveland, Cincinnati, Chicago & St. Louis Railway Co., succeeding E. O. McCormick. Mr. Lynch will have his offices at Cincinnati, Ohio.

The stockholders of the Southern Railroad Co. at the recent meeting in Richmond approved the execution of leases of the Mobile & Birmingham, the South Carolina & Georgia and the Richmond & Mecklenburg railroads, which are now operated by the Southern.

According to a circular issued by the Southern Railway Co., Mr. M. V. Richards, land and industrial agent of this company, will also act as land and industrial agent for the Atlantic & Yadkin, the South Carolina & Georgia and the Northern Alabama roads, which have recently been acquired by the Southern.

The first of the locomotives being built for the Swedish railway system by the Richmond Locomotive Works has been completed and is pronounced by experts to be one of the finest of its kind yet constructed in this country. It is of the 10-wheel compound pattern, and weighs 127½ tons. It is estimated that it can haul a train weighing 1800 tons without difficulty. The locomotive is one of ten which have been ordered by the Swedish government.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Southern Cotton Spinners.

About 100 cotton manufacturers, representing 200 mills in different States of the South, and twenty commission men from the North and others attended last week the annual meeting of the Southern Cotton Spinners' Association. The officers elected for the year were as follows: President, Dr. J. H. McAden; vice-president, Mr. J. P. Verdery of Augusta, Ga.; secretary and treasurer, Mr. George B. Hiss; board of governors, Messrs. D. A. Tompkins, Charlotte; R. S. Rheinhardt, Lincolnton; A. P. Rhyne, Mt. Holly; Le Roy Springs, Lancaster, S. C.; J. T. Anthony, Charlotte; J. C. Smith, Newton; R. R. Ray, McAdenville; W. C. Heath, Monroe, and A. C. Miller, Shelby.

In his opening speech the retiring president, Mr. D. A. Tompkins, explained the reasons for the existence of the organization as follows:

"The purpose of this association is to promote free, social and commercial intercourse. It is no part of its purpose to undertake any sort of control of the business of its members. Whatever actions may be taken will relate to general subjects, as, for example, freight rates, export trade, and such like subjects. Chambers of commerce and boards of trade exist in all parts of the world to bring about co-operation of special manufacturing interests for the general benefit of the interests represented. These organizations do not undertake to control businesses of individuals or corporations, and yet legislative bodies in this country and abroad confer with these organizations as to proper legislation relating to trade and manufactures."

A motion was adopted commending the textile school at Clemson College, S. C., and at the Georgia School of Technology, and the proposed textile department at the North Carolina Agricultural and Mechanical College, while steps were taken to provide several important arbitration committees.

At the conclusion of the regular business, Mr. Edward H. Sanborn, of the National Manufacturers' Association, gave an interesting talk on the objects of that body and the work which it has already accomplished. At the banquet which followed the topics discussed were: The South, past, present and future, industrially and financially; the association, transportation facilities and Southern textile manufacturing.

Improvements Costing About \$100,000

The Mississippi Mills of Wesson, Miss., is now preparing to make various improvements that will cost between \$75,000 and \$100,000. A 40-foot extension will be made to the present four-story building to accommodate new machinery, and all the cotton spinning will be transferred to No. 3 mill and finishing machinery to No. 2 mill. The addition will be used for the accommodation of 250 new looms, three lappers, twenty-four cards, one engine, drawing machinery, etc., that are to be bought.

Cotton Movement.

In his report for May 12 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that during the 254 days of the present season the movement of cotton into sight has amounted to 10,588,919 bales, a decrease of 133,013 bales from last season. Exports were 6,612,908 bales, a decrease of 216,069; takings by Northern spinners 2,077,937 bales, a decrease of 85,892; by Southern

spinners 1,031,132 bales, an increase of 37,804 bales.

To Add 10,000 Spindles.

The Florence Cotton Mills of Forest City, N. C., will enlarge their plant to 15,000 spindles, the production to continue yarns, as now. The company's capital stock will be increased from \$100,000 to \$300,000, and as much of the amount as is necessary will be used in paying for the new machinery. As the mill now contains 4200 spindles, the increase means an addition of 10,800 spindles. Looms may also possibly be purchased.

A 5000-Spindle Mill.

A company will be organized at Mount Pleasant, N. C., for the erection of a mill at once, prominent business men being interested. The plant is planned for 5000 spindles, although but half this number may be installed at the start. Messrs. Cook & Foil, Dr. Paul Barringer and W. R. Kindley are interested as stockholders. Dr. Barringer will be secretary-treasurer.

Adding 5000 Spindles and 100 Looms.

An increase of 5000 spindles and 100 looms has been decided upon by the Salisbury (N. C.) Cotton Mills. Mr. F. J. Murdock, president of the company, will buy this machinery at once and install it, increasing the equipment to more than 20,000 spindles and 500 looms.

Textile Notes.

Mr. M. A. Smith of Scotland Neck, N. C., is equipping a knitting mill.

The Lagrange (Ga.) Mills has declared its usual annual dividend of 7 per cent. on its capital of \$157,400.

Messrs. Bruce Beard and Dr. W. C. Ashworth of Kernersville, N. C., are establishing a knitting mill.

The Greenwood (S. C.) Cotton Mills has declared a semi-annual dividend of 4 per cent. on its capital of \$180,000.

Mr. Robert G. Blankenson of Wheeling, W. Va., is equipping a factory for the production of ladies' knit garments.

It is reported that the Kinston (N. C.) Cotton Mills has increased its capital \$70,000 and ordered lot of new machinery.

The Thistle Mills Co. of Ilchester, Md., will erect a second mill, doubling the present plant of 7800 spindles and 240 looms.

Messrs. A. W. Birkbeck and Mr. Stubbs of Cedartown, Ga., will erect a cotton factory; location of this mill not decided yet.

The Pepperton Cotton Mills of Jackson, Ga., contemplate and have about decided to erect another 5000-spindle and 160-loom factory.

A company has been organized at Dallas, Ga., for the erection of a cotton factory, E. Davis being president, and B. T. Drake, vice-president.

The Roswell (Ga.) Manufacturing Co. will install a sprinkler system of 1000 heads. Manufacturers and contractors are invited to submit prices.

The Wilmington (N. C.) Cotton Mills has declared a quarterly dividend of 1 per cent. and an extra dividend of same amount; capital is \$150,000.

The directors of the proposed negro cotton factory in Mississippi will, it is stated, build it at Jackson if a site is given by the Board of Trade.

The King's Mountain (N. C.) Manufacturing Co. has declared an annual dividend of 12½ per cent., besides adding to the surplus fund; capital is \$80,000.

The business men of Brownsville, Tenn., will endeavor to secure the location

of a cotton factory in their city. Capt. J. B. Phillips, D. O. Thomas and others are interested.

The Excelsior Knitting Mills of Union, S. C., has completed its dyeing plant, referred to last week. The addition for spinning is now in course of construction, and the 5000 spindles will be put in place soon.

The reports regarding the doubling of the Tuckasee Manufacturing Co. of Mt. Holly, N. C., and the Spencer Mountain Mills, Lowell, N. C., mentioned last week, were incorrect. The enlargements are only contemplated.

Mr. A. G. Couch of the Couch Bros. Manufacturing Co. of Senoia, Ga., wants to buy a machine for making back-band webbing on the circular order, or, in other words, like a seamless salt sack, and five inches wide when pressed flat.

Mr. Cyrus W. Ashcraft, N. F. Cherry and others propose the organization of the Florence (Ala.) Cotton Mills to erect a factory this summer. It is proposed to make the coarse grades of yarn, employing eighty operatives. Subscriptions to stock are being solicited.

The Hanson-Crawley Co. and the Stafford-Huguley Hosiery Co. of Barnesville, Ga., have consolidated as the Hanson-Crawley Co. The company's combined plants give a daily capacity of 500 dozen hosiery and underwear, capital invested being \$20,000. About \$5000 will be spent for more machinery, including new boiler and engine.

The Eagle & Phenix Mills of Columbus, Ga., has awarded contract to Hardaway, Jones & Co. for the excavation of the tailrace, the construction of the stone flumes and other machinery connected with the reorganization of the water-power plant of this mill. Recently this mill was reported as to expend \$50,000 on this reorganization and the purchase of new water wheels, etc.

The Midland Hosiery Co. of Lynchburg, Va., has been incorporated, with authorized capital stock of \$50,000, for the purpose of engaging in the manufacture of hosiery and other knit goods. This company established mill several months ago and will now add 120 machines (has twenty at present) to produce 500 dozen socks daily and employ 200 operatives. Mr. Jos. G. Burton is president.

The Blue Ridge Knitting Co. of Hagerstown, Md. (operating an established plant), reported last week as incorporated, intends to add more machinery in the near future. About \$20,000 is now invested, some of which will be used for new machinery. The company's mill at present has capacity of 1000 dozen pairs of hose per week, operating sixty machines and employing fifty-five operatives.

Mr. J. L. Hill of Richmond, Va., mentioned in connection with a knitting mill project last week, does not himself contemplate erecting such a plant. But as chairman of the advertising committee of the Richmond Young Men's Business League Mr. Hill has interested himself in the matter of a knitting mill for several parties who anticipate establishing such an enterprise at such location where suitable labor can be obtained.

The proposed mill company at Belton, S. C., will be formed and incorporated as the Belton Cotton Mill, the incorporators being Messrs. F. J. Pelzer of Charleston, S. C.; R. A. Lewis and J. F. Rice of Belton, S. C., and E. A. Smyth of Pelzer, S. C. The size of the mill or the amount of capital to be utilized has not been decided yet. The management of this enterprise will be the same as that of the Pelzer Manufacturing Co. of Pelzer, S. C., which now operates the largest cotton manufactory in the South.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

The Market for Cottonseed Products.

New York, N. Y., May 17.

The cotton-oil market is still in the depressed condition referred to in our last. The decrease in receipts, however, is a feature which tends to add strength to the market. Locally a moderate business is doing, but the export trade is in the same stagnant position. A careful review of the situation tends to the conclusion that the statistical position of cotton oil is very strong, and temporary dullness in any particular locality or with any single consuming source will not obscure the fact that the supplies available will all be wanted at good prices before new-crop oil comes to the market. Lard, July delivery, Chicago, is down to 5.10 cents. Tallow is on offer at 4½ cents at this point, the market showing a firmer tendency toward the latter part of the week. The prolonged depression in the lard market has worked seriously to the disadvantage of cotton oil, inasmuch as the demand for compound lard has dropped off materially. While it is conceded that the strong position of cotton oil with regard to stocks renders it to a certain extent proof against adverse influences, such as the depressed lard market, yet it cannot be denied that with a more favoring lard market, in conjunction with other prevailing conditions favorable to cotton oil, demand for the latter would not only be substantially improved, but so also would prices. Business in the chief Southern oil-shipping centers is reported to be almost as dull as in New York, while Western packers or soapmakers are for the time practically out of the market. The fact remains that consumers here and abroad have largely used up the purchases made during the fall and earlier part of the year, and while the market is a waiting one, the chances of winning are decidedly on the side of holders. With further reference to the lard market latest information is to the effect that the controlling influence of the big packers will be exerted to prevent the natural trend of prices, and until certain ends in view have been brought about by said manipulation. Soap stock has dropped in price, 60 to 65 cents now being quoted. We quote: Crude, 20 to 21½ cents; crude, loose f. o. b. mills, 18 to 19 cents; crude, loose f. o. b. mills, 14 to 16 cents; summer yellow, prime, 25½ to 26 cents; summer, choice, 26 to 26½ cents; summer, off grades, 24 to 25 cents; yellow, butter grades, 27 to 30 cents; white, 29 to 30 cents; winter yellow, 29 to 30 cents, and salad oil, 30 cents. Refined in Hull, England, is quoted at 15s. 6d., an improvement over price of a week ago. There are increased offerings, comparatively, of off and prime oils from Southern refiners and crushers who are working up what seed is to be had, the former selling on dock here at 24 to 25 cents, and of the latter at 25 to 25¼ cents, and prime at 25½ to 26 cents, or being sent to store in absence of demand. There is nothing new with regard to the meal market, demand being light and prices nominal.

Cottonseed-Oil Notes.

The new cottonseed-oil mill which the Caraleigh Phosphate Co. will build next month at Raleigh, N. C., will have a capacity of fifty tons of seed a day.

Articles of incorporation of the Louis-

ville Cotton Oil Co. of Louisville, Ky., were filed last week. The capital stock is \$50,000, divided among the incorporators as follows: John J. Caffery, 150 shares; Charles P. Fink, 150 shares, and R. R. Glover, fifty shares.

It is stated that F. G. Kinney and other capitalists of Birmingham, Ala., have purchased eight acres of ground situated on the Yazoo river and Southern Railroad, a half-mile west of Greenwood, Miss., and will begin the erection of a \$100,000 cotton-oil mill at once.

The foreign exports of cottonseed products from the port of Galveston for ten months ending April 30 were as follows: Cottonseed meal and cake to the United Kingdom and Continent 36,812,752 pounds, valued at \$318,519, and cottonseed oil to the Continent and Mexico 578,366 gallons, valued at \$158,215.

It is expected that subscriptions to the stock of the Continental Oil Co. will be received in a few days. Options have been taken on seven of the largest plants in the South, all of which, with one exception, are located west of the Mississippi river. The companies of the new combine are Paris Oil & Cotton Co., Paris, Texas; Corsicana Cotton Oil Co., Corsicana, Texas; Central Texas Cotton Oil Co., Temple, Texas; Waxahachie Cotton Oil Co., Waxahachie, Texas; Ladonia Cotton Oil Co., Ladonia, Texas; Shreveport Cotton Oil Co., Shreveport, La., and Jackson Cotton Oil Co., Jackson, Miss. The crushing capacity of the new company is about 1000 tons per day. The financial plan divides the stock into \$3,000,000 common and \$3,000,000 preferred, the latter carrying a 7 per cent. cumulative dividend.

The market at New Orleans for cottonseed products continues fairly active for cottonseed meal and cake, but rather quiet for cottonseed oil. Values for all cottonseed products are about steady, with a moderate demand for export. For the week ending May 11 the shipments of oil amounted to 389,500 gallons, all to France. Since September 1, 1898, the foreign shipments of oil amount to 12,247,900 gallons, against 5,832,500 gallons last year. Receivers' prices are as follows: Cottonseed, \$5 per ton, 2000 pounds, on the river bank from New Orleans to Memphis; cottonseed meal jobbing at depot, \$17 per short ton and \$19.50 per long ton for export f. o. b.; cottonseed oil, 15 to 16 cents per gallon for off crude, loose, f. o. b. in tanks here; in barrels, 17 to 18 cents; prime crude in bulk, 15 to 16 cents, and 21 to 23 cents for refined oil at wholesale and for shipment; oilcake, \$19.50 per ton f. o. b.; liners—A, 2½ cents per pound; B, 2½ cents; C, 2¼ cents; hulls delivered at 12½ to 15 cents per 100 pounds, according to the location of the mills.

Oil to Prevent Dust.

The city of Jacksonville, Fla., has been experimenting with the use of petroleum to prevent dust from accumulating on its streets. A section of 135 feet was covered with the contents of two barrels, and the result was so successful that one of the avenues a mile in length will be covered in the same manner. The city engineer estimates that about eighty barrels are required for one mile of pavement and that it will cost about \$217. It is calculated that it costs \$50 a month to sprinkle two miles of pavements daily, which will give an idea of the saving effected by the oil, as the latter will keep the surface in good condition for several months.

The Little Rock (Ark.) Board of Trade has endorsed a plan for a railroad exhibit of the resources of the State.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., May 18.

With the improvement in other fertilizer ingredients phosphate rock is receiving more attention. There is a better demand from manufacturers, and sales of considerable volume are reported for the week. The general situation of the phosphate industry at all points in the South is materially improved. The miners of South Carolina are generally busy, and the domestic demand for rock is active, while there is also a fair foreign inquiry, and prices hold nominally steady. In Florida the work of development in all mining sections is brisk, and railroads are taxed to their full capacity in handling the traffic to the various ports. Shipments from all Florida ports continue uninterrupted, and the record for the present month will be of greater volume than last month. The demand for both land rock and pebble is good, and from both domestic and foreign sources there is a good inquiry. The industry in Tennessee is daily attracting wider attention, and prospectors and representatives of prominent concerns are in the Mt. Pleasant and other districts looking out for new territory to develop. In Williamson county the interest in phosphate discoveries is unabated, and new deposits are being discovered every week. Some of these develop a rich analysis, while others are inferior. Reports from other points in Tennessee are favorable for rich deposits. The tone of the market for phosphate rock is very steady, and the demand, both foreign and domestic, is active. The output is steadily increasing, and the Louisville & Nashville Railroad, which has been receiving 120 carloads of rock daily on a 40-mile branch road, has doubled its capacity since the 1st inst. Prices of rock at Mt. Pleasant are firm at \$3.80 to \$4 for 78 per cent. rock. During the week ending the 15th inst. 539 cars, or 10,900 tons, of phosphate rock were shipped from Mt. Pleasant. Among the charters at New York for the week are the following: British steamer Glenderson, 1127 tons, from Tampa to Stettin with phosphate at 18/9, May, and a British steamer, 1200 tons, from Pomaron to Savannah, Port Royal or Charleston with brimstone on private terms, June.

Fertilizer Ingredients.

The movement in ammoniates has been of better volume during the week, and the market is fairly active, with values firm and higher. In the West the market is strong, with stocks light and firmly held at outside figures. There has been a good Eastern demand, and several large sales of blood for export are reported. Crushed tankage of high grade has been sold in large lots on six months' contracts on basis of \$1.75 and 10, Baltimore. Nitrate of soda is slightly easier.

The following table represents the prices current at this date:

Sulphate of ammonia (gas)	\$2 87½ @	2 90
Nitrate of soda	1 70 @	1 72½
Blood	1 85 @	2 00
Hoof Meal	1 65 @	—
Azotine (beef)	1 90 @	—
Azotine (pork)	1 90 @	—
Tankage (concentrated)	1 70 @	1 72½
Tankage (9 and 20)	1 80 @	1 82½ & 10
Tankage (7 and 30)	17 00 @	17 50
Fish (dry)	20 00 @	—
Fish (acid)	12 00 @	—

Phosphate and Fertilizer Notes.

The domestic shipments of phosphate rock from the port of Charleston, S. C., for the week ending May 12 were as follows: Schooner George R. Congden for Newton creek, New Jersey, with 611 tons; schooners Susie H. Davidson with 830 tons; Annie L. Mulford with 806

tons, and Mary Lee Patton with 729 tons, all for Baltimore; total 2966 tons.

Interest in phosphate discoveries in Williamson county, Tennessee, continues unabated. New deposits are reported every week, some being quite inferior, while others show some very rich samples. Analyses of samples discovered on a farm near Franklin show a range of 72.38 to 74.49 per cent. bone phosphate. Several parties have arranged to go extensively into mining next week.

The property of the Globe Phosphate Co. at Columbia, S. C., was sold last week to the Virginia-Carolina Chemical Co. The price paid was \$50,000. A portion of the mill was burned in February last, but a large part of the product was saved. It is stated that the Virginia-Carolina Chemical Co. will erect a plant of double the capacity of the old mill, will put in new machinery and generally enlarge its business.

It is stated that plans for a consolidation of the leading fertilizer companies of the North are practically completed, and a prospectus is about to be issued. It is expected that the company will include twenty-three plants, among which are included Grafflin & Son of Baltimore and several other companies of that city. The new company is to be capitalized at \$34,000,000, divided equally between preferred and common stock. John F. Gibbons, vice-president of the Liebig Manufacturing Co., is mentioned as the probable president.

The fruit and vegetable growers in the vicinity of Waco, Texas, are endeavoring to make arrangements with one of the railroad companies in that vicinity to put on a fast train for carrying their products to the Northern market. Such is the extent of this business around Waco that it is believed a daily service could be operated with benefit both to the railroad companies and the producers.

By an arrangement between the Southern Railway Co. and the Atlantic Coast Line the Southern has secured the portion of the Cape Fear & Yadkin Valley Railroad between Sanford and Mt. Airy, N. C., which will be operated as a portion of this system. The section between Sanford and Wilmington will be retained by the Atlantic Coast Line.

It is announced that the firm of Cornwall & Willard of Cloverport, Ky., have secured a contract amounting to \$1,080,000 to furnish Cincinnati with stone for the masonry work of the new reservoir. The contract will furnish work for 100 men for four months.

The Ellisville (Miss.) Cotton Mill Co. has been incorporated by Messrs. S. J. Johnson and others of Ellisville, E. H. Roberts of Baltimore, Md., and C. L. Wortham of Memphis, Tenn., for the purpose of manufacturing cotton goods, rope, etc. The capital stock is \$500,000.

A dispatch from Norfolk, Va., is to the effect that the Cape Henry Land & Improvement Co. is being organized to purchase a tract of about 5600 acres of land near Cape Henry. It is intended to establish a resort at this point and to divide the property into lots for cottages.

The South Chattanooga Business League at its annual meeting elected A. R. Thomas, president; A. C. Faust and W. S. Weatherford, vice-presidents; S. B. Smith, secretary, and Thomas Hughes, treasurer.

Twenty-five hundred persons from different counties in Southern Mississippi participated in the celebration of the beginning of the dredging of the deep-water channel at Gulfport.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,

Baltimore, Md., May 18.

Reports from nearly every department of the local lumber market reveal the fact that the volume of business is unchanged, and conditions are to a great degree satisfactory. The scarcity of lumber at milling sections, the unusual domestic and foreign inquiry and the reaching out for new timber lands gives the general list of values a much firmer tone. In North Carolina pine stocks continue light and prices firm and higher throughout the list. Manufacturers, however, are generally prompt in filling orders, and as to scarcity of timber, prominent millmen say they are developing their territory and will have quite enough to supply the current demand. Air-dried lumber in this market is fairly active, but the demand is by no means urgent, as boxmakers are not paying prices readily, and other dealers are fairly well supplied. There is a good trade demand for white pine, and the market is firm, with stocks about ample for current wants. The inquiry for hardwoods is active, there being a good demand from nearby towns. Stocks, however, are reported light at all milling points in Virginia, West Virginia and Tennessee, while lumber at all points is held at outside figures. The foreign export trade is reported satisfactory at the moment, and leading shippers are doing a good volume of business. The reports from foreign markets are somewhat encouraging, and the probabilities are that prices will continue to appreciate during the summer, as stocks on the other side are light.

Norfolk.

[From our own Correspondent.]

Norfolk, Va., May 15.

The general trade of this port is now showing a very satisfactory volume of transactions in nearly every department, and the rapid strides in commerce and industry now being put forward gives Norfolk an enviable position among South Atlantic ports. Among her primary industries that of lumber presents, perhaps, conditions quite unusual, and, at the moment, the demand cannot be satisfied. Stocks of lumber at milling points are all taken as fast as mills can turn out the cut, while prices continue to appreciate under an urgent call from buyers. The inquiry from domestic as well as foreign sources is nearly all for immediate delivery, and there seems to be barely enough manufactured to satisfy immediate wants. Since the 4th inst. prices have advanced from \$1 to \$2 on 4-4 and 5-4 lumber, while slight advances have been made on 6-4 and 8-4. As to the scarcity of timber, prominent manufacturers say they have plenty in sight and are ready to meet any demand that may occur. The domestic demand for all grades of lumber is, perhaps, greater today than at any time for several years past, and buyers readily accede to the advance in prices. It is likely that there will be a still heavier business done later on, as the crop outlook is said to be promising, real estate and suburban improvements are showing a much better tone and foreign markets, with reduced stocks, anxious to purchase, all combine to make conditions favorable for a better volume of trade. The local demand here for lumber is active, and large quantities of building material are

going into consumption for city and suburban improvements. Freights on lumber still continue steady, with rates unchanged, at \$2.50 to \$2.75 for New York and Sound ports and \$3.25 to \$3.50 for Boston and eastward.

Savannah.

[From our own Correspondent.]

Savannah, Ga., May 15.

Millmen at this port are at the moment exceedingly busy, and in every department of the lumber industry the volume of trade is showing a marked increase. Not only here, but at the nearby ports of Brunswick and Darien, as well as at all interior markets, business is rushing. At all milling sections manufacturers are well supplied with orders, and there is no accumulation of stock. Prices have advanced on all desirable grades, and sales are readily made at quotations. The sawmill men of this State held a meeting last week at Macon, when it was stated that every mill in the State was from thirty to ninety days behind with orders. Railroads are moving the lumber as fast as possible, and adding a number of new cars in order to facilitate traffic. During the past week the shipments of lumber and ties have been very large, 2,917,000 feet of the former and 24,345 of the latter having been shipped to Northern ports, distributed as follows: New York 1,437,000 feet of lumber, Philadelphia 630,000 feet, Baltimore 850,000 feet and Portland, Me., 24,345 crossties, or 779,040 feet, a total of 3,696,040 feet. The depot quartermaster shipped last week to Havana 350,000 feet of lumber for government purposes, and a considerable amount will in future go forward. Large quantities of building material are being shipped to Havana for the erection of barracks. The freight rates on lumber continue steady, with a scarcity of desirable tonnage, and the tone is firm. The charters reported last week were as follows: Schooner John R. Penrose, 433 tons, from Brunswick to Philadelphia with lumber at \$5.12½; schooner Charles K. Schull, 827 tons, from Brunswick to Philadelphia at \$5; schooner W. H. Bailey, 465 tons, from Darien to New York at \$5.50; schooner E. B. Hall, 360 tons, from Brunswick to New York with lumber at \$5.50.

Mobile.

[From our own Correspondent.]

Mobile, Ala., May 15.

There seems to be a still greater demand for wood products in this section as the season progresses, and in both timber and lumber the movement is expanding in volume. The demand for both sawn and hewn timber continues fairly active, and from both the United Kingdom and Continent there is a good inquiry. During the week under review the tone of the market for sawn timber has ruled steady at 12½ to 13 cents per cubic foot, and for hewn timber the market is firm, with light stocks, at 13½ to 14 cents per cubic foot. Hewn poplar is in fair demand and at 12 cents per cubic foot; cypress logs are selling at 7 to 10 cents per cubic foot, and pine saw logs are in good demand at \$7 per 1000 cubic feet. There is a strong movement in all the avenues of the lumber trade and mills at adjacent sections are all busy and are enjoying a better trade than for several years past. Prices are firm and higher throughout the general list, and stocks are not accumulating to any extent, so that the prospects are that values will continue firm for some time to come. Among the shipments reported for the week were the following: Bark Signal for Liverpool with 13,948 cubic feet of sawn timber and 22,103 feet of lumber; steamer Lindisfarne for Rotterdam with 51,000 cubic feet of sawn timber and 568,

963 feet of lumber; bark Bell for London, England, with 68,153 cubic feet of sawn timber and 16,158 feet of lumber; bark Andrake for Newcastle with 62,346 cubic feet of sawn timber and 24,632 feet of lumber; ship Parthenia for Grangemouth with 81,100 cubic feet of sawn timber and 15,016 feet of lumber. Of the total shipments of lumber, amounting to 1,278,872 feet, 600,000 feet went to New York and 32,000 feet to Central America. Timber shippers here look upon the situation as very promising and expect considerable business during the month of June. The foreign market is reported rather quiet in certain lines, but there is a better undertone in the timber trade and all shipments are bringing fair prices when placed upon the market. Lumber freights here are steady and unchanged, with a moderate offering of desirable tonnage. Rates to the West Indies are \$6 to \$7, Mexico \$7 to \$8, Rio de Janeiro \$16, River Plate \$13 and coastwise \$6 to \$7; lumber to Philadelphia \$6; steamers to the United Kingdom or Continent with timber £5 5s. to £5 12s. 6d.; sail per load 32s. for hewn timber, and for sawn timber £5 2s. 6d. to £5 5s.

Lumber Notes.

Receipts of lumber last week at New Orleans amounted to 1,916,000 feet, and for the season 55,881,656 feet, against 66,630,000 feet last year.

The mills of the Canda Lumber Co. at Cordele, Ga., were destroyed by fire on the 12th inst. The loss is estimated at \$25,000, with \$14,000 insurance.

The firm of Weston & Co. was incorporated last week at Jacksonville, Fla., with a capital stock of \$10,000, to do a wholesale business in lumber and other wood products.

The Verault Lumber Co. of Pensacola, Fla., was chartered on the 8th inst., with a capital of \$25,000. George A. Verault, Marion A. Quina and C. W. Gonzalez are the incorporators.

Crosstie shippers from Brunswick, Ga., last week made the best record in shipments in the history of the industry at that port. Five vessels cleared on the 8th inst. with 77,995 ties.

The Buffalo Lumber Co. at Bayard, W. Va., on the West Virginia Central & Pittsburgh Railway, last week granted a voluntary increase in wages to its mill hands amounting to 15 per cent.

The dry-kilns and planing mill of the Dasher Lumber Co., located at Marchman, Ga., on the South Georgia Railway, were burned on the 10th inst. The loss is estimated at \$8000, with no insurance.

An amendment was granted last week to the Tunis Lumber Co. of Norfolk, Va., giving the right to acquire and own by purchase, subscriptions or otherwise shares of the capital stock of any other duly incorporated company.

The Yazoo Furniture Co. was chartered on the 8th inst., with headquarters at Yazoo City, Miss. The capital stock of the company is \$50,000, and the incorporators are S. Wachenheim, W. O. Menger and George Anderson.

The British steamer Dongola finished loading on the 12th and cleared with one of the largest cargoes of lumber and timber that ever left the port of Mobile. The total amount of timber and lumber on board amounted to 3,600,000 feet.

The Owensboro Box & Barrel Co. of Owensboro, Ky., was incorporated last week, with a capital stock of \$25,000. Peter Blitzer, John Henry and P. W. Brown are the incorporators. Louisville capitalists are the largest stockholders.

The Merchants' Lumber Co. of Belton, Texas, was incorporated on the 8th inst.,

with a capital stock of \$10,000. The officers of the company are T. W. Cochran, president; S. M. Ray, vice-president; Morris Traver, secretary, and J. Z. Miller, Jr., treasurer.

The Commercial League of Pine Bluff, Ark., has secured the Austin & Sawyer Lumber Co. of La Crosse, Wis. The company has purchased 100,000 acres of timber land in that section at a cost of \$500,000, and will erect an extensive mill plant with a pay-roll of \$2000 a month.

The board of directors of the Kentucky Wagon Co. on the 9th inst. at Louisville, Ky., declared a quarterly dividend of 1¼ per cent., and an extra dividend of 1 per cent. for the year, in all 2¼ per cent., payable on May 27, 1899. The affairs of the company are in excellent condition.

The Tennessee Lumber, Mining & Railroad Co. of Cocke county, Tennessee, was chartered last week, with a capital stock of \$50,000. The incorporators are R. C. Smith, Y. J. McMahon, W. B. Robinson, C. B. Mims, W. H. Jones of Newport, Tenn., and James J. Brooks of Boston, Mass.

The Franklin Land & Lumber Co. was chartered last week at Norfolk, Va., with a capital stock of \$25,000. The officers of the company are George W. Bright, Columbus, Ohio, president; O. D. Jackson, Norfolk, Va., vice-president; R. R. Rickley, Columbus, Ohio, treasurer; E. G. Dunning, Columbus, Ohio, secretary.

The large saw mill at Yale, Bath county, Kentucky, owned and operated by the Sterling Lumber Co., was totally destroyed by fire on the 9th inst. The property was valued at \$25,000 and insured for \$11,000. The Sterling Lumber Co. is composed of New York capitalists who own large lumber interests in Bath, Menefee and Wolfe counties.

The dry-kilns, lumber sheds, saw mills and offices of the E. E. Jackson Lumber Co. of Ridersville, Ala., twenty miles north of Selma, were entirely destroyed by fire on the 10th inst. The planing mill and adjoining sheds alone remained standing. The loss is estimated at \$100,000. The plant was owned and operated by a Baltimore company of which ex-Governor Jackson of Maryland is president.

George W. Steagall, a leading mill man of Tullahoma, Tenn., has recently purchased a fine body of oak and poplar timber from J. D. Jordan, Sr., of Scottsboro, Ala. Mr. Steagall will develop his purchase by the erection of a new band mill or move his extensive mill plant at Tullahoma to Scottsboro, the latter contingency depending upon the question of securing freight facilities which will enable him to operate both plants successfully.

Dewing & Son, whose lumber plant at Point Marion, twelve miles north of Morganton, W. Va., is one of the largest in this section, have sold their timber lands and mills to a syndicate, and the plant will be moved to a point on a new road to be built into their new lands from the nearest point on the Chesapeake & Ohio road. The consideration for the whole property was nearly \$1,000,000. The land holdings of Dewing & Son consisted of 70,000 acres on Shafer's fork of Clear river in Randolph county.

The shipment of 250 tons of pig iron by the Sloss Iron & Steel Co. direct from Birmingham to Hong Kong is an indication of the widening importance of the Alabama iron industry. The shipment was by rail to San Francisco, and thence by the Pacific Mail Co.'s steamers to China.

The membership of the Texas Grain Dealers' Association has grown since August 16 last from sixteen to 113.

MECHANICAL.

A Rotary.

Rather a unique illustration is presented herewith in the shape of a "rotary" that tends to interest users of pumps in the rotary device of pumping manufactured by the Davis Johnson Co. of Chicago, Ill. It is announced that the company intends later to use this illustration in advertising its product in the



columns of the trade publications of the country. By reading the circling lettering it will be seen that the Davis Johnson Co. makes a rotary (therefore continuous) pump, and that it is claimed to be positive, simple, reversible, easy of action and noiseless, and that it is made in iron, bronze or acid-proof alloy in sizes of from one to sixteen inches, with capacity of from twenty-five to 750 gallons per minute.

New Double-Cylinder Surfacer.

The unusual demands made upon planers, particularly by the large box factories, Pacific coast and Southern lumbermen, have been such as to require a better, more substantial and durable machine than has heretofore been built.

The new and advanced type of machine here illustrated is designed to do the greater quantity of heavy or light surfacing in hardwood or pine, and weak features that experience has developed will be found overcome. Every practical improvement that long experience has

justable gibs. It raises and lowers on four powerful screws, one at each corner of the bed, and by means of friction feed instantly stopped and started by means of one lever at the front of machine convenient to the operator, or may be adjusted by hand by large hand-wheel at front of machine. The four screws run in ball bearings, making the raising and lowering of the bed a matter of the greatest ease.

There are six feed rolls, eight inches in diameter, powerfully driven, and all rolls have parallel lift so as to give full bearing across the entire width surface of the material being planed. The two upper rolls and chip-breaker before the cylinder are divided, and each section of the rolls separately driven and separately weighted. The lower rolls are driven by large expansion gearing, avoiding bevel gears or universal joints. Friction rolls are also fitted in each end of the bed.

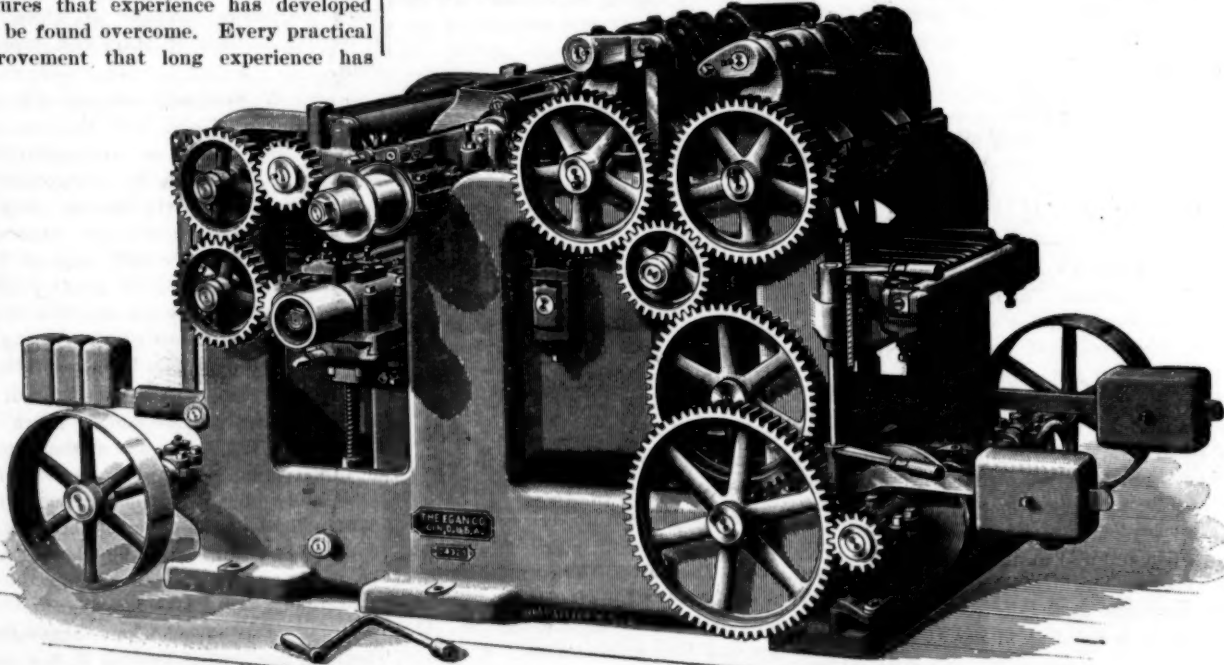
The feed is driven from the cylinder, thus always controlled by its cutting velocity, increasing and diminishing according to the speed of the cylinder. It is at the instant control of the operator, started and stopped by means of a ring friction, possessing adjustment for wear, and is a simple and durable device. As many speeds of feed can be furnished as may be desired.

The cylinders are solid steel forgings, three-sided, slotted for carrying three knives. The journals are two and one-quarter inches in diameter, running in boxes ten inches long, lined with best material, and ground perfectly true, self-oiling so as to continually flow oil to the journals.

The lower cylinder, with its bearings, is mounted in a long dovetailed slide, that may be quickly drawn out at the side for sharpening and resetting the knives.

The pressure-bar after the upper cylinder is arranged to act as a bar over the lower cylinder and adjusted by means of a small hand-wheel at the side of the machine, thus avoiding separate adjustment.

The lower cylinder bedplate for same and lower feeding-out rolls are very con-



NEW DOUBLE-CYLINDER SURFACER.

suggested is embodied in this machine. It is the latest product of the works of the Egan Co., 228 to 248 W. Front street, Cincinnati, Ohio, and is known as its No. 14 new double-cylinder surfacer.

The main frame is unusually strong and heavy, cast in cored sections, with heavy cross girts and broad base.

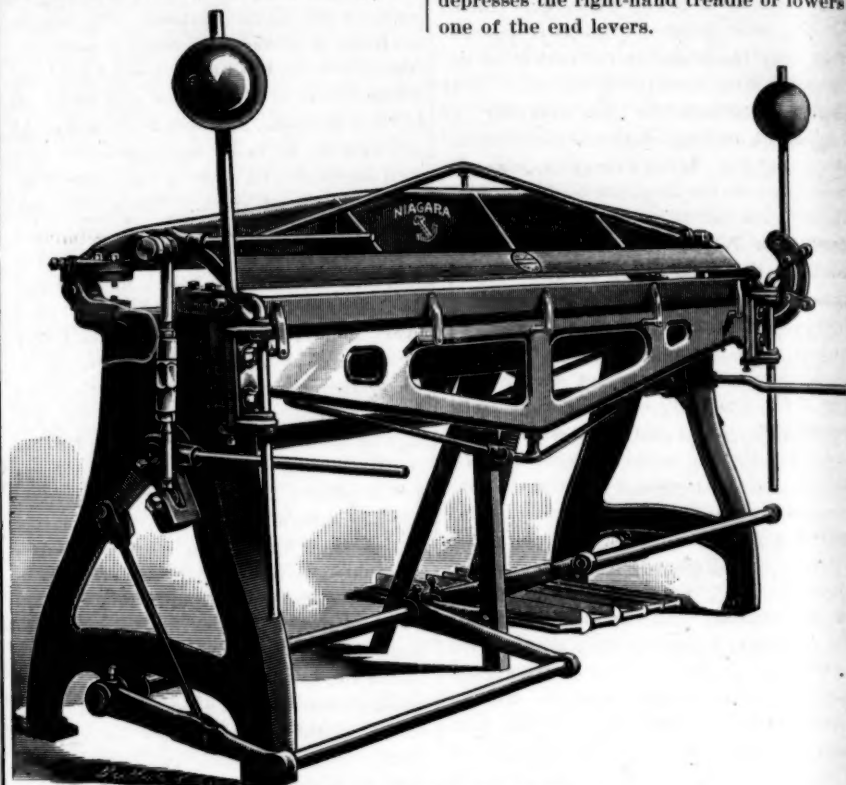
The bed is made with a heavy deep web and fitted into the main frame in four long dovetailed ways by strong ad-

veniently adjusted to regulate the depth of cut.

The builder of this machine is putting out many new machines this season in order to keep fully abreast of the natural evolution that goes steadily on in the mechanical world. For the past year this company has had a large corps of experts engaged in nothing else but designing improvements in existing machines and evolving new ones.

Niagara Cornice Brake.

This is a new cornice brake, made entirely of iron and steel, recently put on the market by the Niagara Machine and Tool Works of Buffalo, N. Y. By distributing the metal on correct principles the company succeeded in constructing a brake lighter than other iron brakes, and yet perfectly adapted to the ordinary work of cornice makers. Surplus stock, which only adds to the cost, transporta-



NIAGARA CORNICE BRAKE.

tion charges and makes a brake unhandy, was avoided, and, on the other hand, there was no resource to materials susceptible to changes of temperature and dampness.

Tension rods are applied to the three leaves to insure stiffness, and by means of which any spring that may occur can be taken up. Rigidity is also insured by the center leg.

it, which increases the width to one and seven-eighths inches. The bending bar is adjustable up and down to compensate for wear.

The clamping bar can be raised and lowered by the operator conveniently when he stands before the machine or at either end. By depressing the left-hand treadle or raising one of the end levers the clamping bar is lifted up and it remains in this position until the operator depresses the right-hand treadle or lowers one of the end levers.

The bending bar is light, and, consequently, easy to handle, being perfectly counterbalanced by means of adjustable weights. The clamping bar can be raised about one inch in the manner described above, and after sliding out the two pivot pins it can be lifted up to the vertical position. The adjustability of the bending leaf enables the operator to make round bends.

At the right-hand end of the machine there is a quadrant gauge, with three adjustable stops, which can be quickly thrown out of the way.

A Southern Acetylene-Gas Machine.

The extent to which acetylene gas is being used throughout this country at this time makes the following data regarding a Southern machine for generating the gas of some interest.

The machine in question is the invention of Mr. W. E. Scofield. This machine generates its gas entirely under water, thereby cooling it and freeing it from impurities, which allows the burner to be turned down without smoking or carbonizing.

The cartridges containing the carbide are always in sight, so that the operator can tell at a glance how long the machine will run. An electric alarm notifies when the last cartridge has been submerged, thus giving an opportunity for recharging during the next hour, which can be done with the lights burning.

The generator never has to be opened, thus removing the element of danger, and as no air can get to the gas a brilliant and uniform light is the result and over-generation or loss of gas is impossible.

The "Submarine" acetylene-gas machine is manufactured by the Sunlight Gas Machine Co. of 303 Campbell street, Augusta, Ga., to whom inquiries for prices and further particulars may be addressed.

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CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with every one interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted." In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

ALABAMA.

Birmingham—Coal Mines, etc.—The Lewisburg Coal & Coke Co. has been incorporated, with a capital stock of \$20,000, by J. Harry Lee, Frank P. Clark and Henry S. Jenkins, all of Baltimore, Md., to operate the mines, etc., of the Jefferson Coal & Coke Co., recently leased by J. Harry Lee, as mentioned in the Manufacturers' Record.

Dogwood—Mining and Manufacturing.—The Export Coal & Railway Co. has been incorporated, with a capital stock of \$30,000, by Percy T. Whilden of Bessemer, Ala., and J. F. and J. R. Robertson of Charleston, S. C., to conduct a mining and manufacturing business.

Florence—Wagon Works.—The Florence Wagon Works (reported last week) is installing about \$8000 worth of new machinery, increasing its capacity from 10,000 to 14,000 farm wagons per year; 300 operatives are employed; A. D. Bellamy, general manager.

Florence—Cotton Mill.—Cyrus W. Ashcraft, N. F. Cherry and others are interested in the organization of the Florence Cotton Mills for the erection of a \$50,000 factory; \$10,000 has been subscribed.

Sheffield—Oil Mill.—The Richmond Cotton Oil Co. of Chattanooga, Tenn., will erect a \$50,000 cotton-oil mill at Sheffield.

ARKANSAS.

Pine Bluff—Machine Shops.—Lamb & Co. of Freeport, Ill., have made a proposition to the Business Men's League and the Commercial League for the establishment in Pine Bluff of a plant for the manufacture of windmills, engines and other machinery.

FLORIDA.

Jacksonville—Lumber Company.—H. Weston, M. B. Weston and C. H. Little have incorporated H. Weston & Co. to conduct a general lumber and wood-products business, operate towboats, etc.; capital stock \$10,000.

Luanna—Rice Mill.—J. W. Henderson will install rice machinery and perhaps corn sheller.*

Pensacola—Lumber Company.—George A. Verrault, Marion A. Quina and G. W. Gonzalez have incorporated the Verrault Lumber Co., with a capital stock of \$25,000, to conduct a general lumber business.

Tallahassee—Navigation Company.—The Florida Island Navigation Co. has applied to the legislature for charter and has for its object the operation of steamboats, barges, etc., construction of canals, etc.; H. Alan Smith, president; Robert McNamee, vice-president; Frederick S. A. Maude, secretary-treasurer; capital stock \$15,000.

GEORGIA.

Atlanta—Grain Elevator, etc.—L. D. McKee, E. M. Cobb, George W. Brooke and T. J. Brooke have incorporated the Steel Elevator & Storage Co. to conduct a general grain elevator and storage business; capital stock \$50,000, with privilege of increasing to \$250,000.

Atlanta—Shoe Factory.—It is reported that Inman, Smith & Co. has been organized for the purchase of the shoe factory at Gainesville of the Hynds Manufacturing Co. and removal to Atlanta.

Augusta—Cotton Company.—Lamar L. Fleming, Fred B. Pope, Landon A. Thomas and T. Porter Fleming have incorporated the Augusta Cotton Co., with a capital stock of \$20,000, for the purpose of conducting a factorage business.

Augusta—Brick Plant.—The brick plant lately reported as established by Rossignol & O'Keefe is located at North Augusta, S. C.; capacity 50,000 brick per day.

Barnesville—Hosiery Mill.—The Hanson-Crawley Co. and the Stafford-Huguley Hosiery Co. have consolidated; new firm has capital of \$20,000 and capacity of 500 dozen underwear and hosiery per day; new boiler and engine and other machinery will be installed at a cost of \$5000. The business will continue as the Hanson-Crawley Co.

Canton—Gold Mines.—A. B. Coggins has sold to G. F. Case of Detroit, Mich., representing himself and associates, eighty acres of land known as the Coggins or Sixes gold proposition, near Canton. A complete plant for thoroughly developing the property will be erected.

Cedartown—Cotton Mill.—A. W. Birkbeck and Mr. Stubbs will erect a cotton mill; location not selected.

Dallas—Cotton and Oil Mill.—The Paulding County Cotton Mills has been organized, with E. Davis, president; B. T. Drake, vice-president; W. Z. Springs, secretary, and R. P. Gann, treasurer, for the erection of a cotton factory and cottonseed-oil mill.

Darien—Chartered: The Neptune Towing Co. has been incorporated by J. K. Clarke, J. D. Clarke and J. K. Clarke, Jr., of McIntosh county and W. H. Strain of Glynn county; capital stock is \$30,000, to be increased to \$100,000.

Fitzgerald—Packing Plant.—Efforts are being made for the organization of the Fitzgerald Packing Co. for the establishment of a plant. Names of interested parties will be announced later.

Gainesville—Tannery.—The Hynds Manufacturing Co., Jos. A. Smith, president, will double the capacity of its tannery.

Jackson—Cotton Mills.—The Pepperton Cotton Mills will erect another factory to double capacity; equipment of present mill 5000 spindles and 160 looms.

Valdosta—Drug Company.—A \$25,000 company has been formed, with B. F. Strickland, president, and J. M. Harvey, secretary-manager, for the establishment of a wholesale drug business.

Warrenton—Cotton-oil Mill and Fertilizer Factory.—Mr. McBurney of Atlanta, Col. B. L. Battle and L. G. Neal of Warrenton have formed a company for the establishment of a cotton-oil mill and fertilizer factory.

KENTUCKY.

Covington—Hinge Company.—The Hildebrandt Automatic Hinge Co. has been incorporated, with a capital stock of \$12,000, by George and Mrs. Carrie Hildebrandt.

Danville—Electric-light Plant.—The city will advertise for bids on the erection of an electric-light plant. Address "The Mayor."

Earlington—Coal Mines.—The Hecla Coal Co. will sink a new shaft and erect new tipples.

Highlands—Water Works.—The city contemplates the construction of a system of water works. Address Wm. H. Band, secretary, district of the Highlands, Highlands, Campbell county, Kentucky.

Isley—Coal Mines.—The Crantree Coal Mining Co., R. M. Salmon, general manager, will install a tail rope, haulage and track scales; will also add new boilers.

Louisville—Cotton-oil Mill.—The Louisville Cotton Oil Co. has been incorporated, with a capital stock of \$50,000, by John J. Caffery, Charles P. Fink and R. R. Glover.

Louisville—Electric-light Plant.—Louisville Electric Light Co. has had plans made for boiler-house addition and will install new boilers.

Louisville—Distilleries.—The Kentucky Distilleries & Warehouse Co., which recently acquired properties in Louisville, will make extensive improvements, including the construction of drying plants, which will be put in all of the distilleries. Angelo Meyers is one of the managers, and is investigating these improvements.

Louisville—Lamp Factory.—The Redman Gas Light Co. has been incorporated for the manufacture of the Redman vapor gasoline lamp by Morris B. Redman, Henry Becker and Henry Meyer; capital stock \$1000.

Louisville—Acetylene-gas Company.—The Southern Acetylene Gas Co. (lately reported as incorporated with a capital stock of \$100,000) has been organized to operate in Kentucky and Southern Indiana, and proposes to furnish both material for the production of acetylene gas and the machines in which to produce it; Robert W. Bingham, attorney.

Louisville—Gas Works.—The Louisville Gas Co. is receiving bids for a new retort house and coke-handling apparatus, plans for which have been prepared by chief engineer Hite Barrett; also on two systems of gas manufacture and coke handling, known as the Coze system and the horizontal system; cost of improvements \$150,000.

Madisonville—Flour Mill.—W. M. Farless of Providence, Ky., will erect a flour mill at Madisonville.

Mount Sterling—Land Company.—B. F. and Douglas Day and John T. Phillips have incorporated the Old Beaver Furnace Land Co., with a capital stock of \$6000.

Owensboro—Telephone Company.—Chartered: The Green River Telephone & Telegraph Co., with a capital stock of \$5000, by H. K. Cole and others.

Owensboro—Box and Barrel Factory.—The Owensboro Box & Barrel Co. has been incorporated, with a capital stock of \$25,000, by Peter Blitzer, John Henry and P. W. Brown.

Owensboro—Telephone System.—John J. McHenry of Louisville, I. C. Adair of Fordsville and J. W. Carter of Owensboro have incorporated the Harrison Telephone Toll Line Co., with a capital stock of \$3000.

Owensboro—Tobacco Factory.—The Green River Tobacco Co., lately reported as incorporated, has a plant fully equipped and in operation.

Winchester—Saw Mills.—The Eastern Kentucky Timber & Lumber Co. has been incorporated, with R. P. Scobee, president; F. K. Wallis, vice-president, and R. M. Scobee, secretary-treasurer and general manager. A tract of 4000 acres of timber land in Wolfe county has been purchased and will be developed; capital stock \$7500.

Winchester—Telephone System.—The Globe telephone system has been incorporated as the Winchester Telephone Co. with S. T. Prewitt, president; Dave Prewitt, vice-president, and J. W. Chambers, secretary-treasurer and manager. The new company will extend its lines to all parts of the county.

LOUISIANA.

Crowley—Rice Mill.—J. E. Platt, proprietor of the Eagle Rice Mill, recently burned at a loss of \$80,000, has closed contract for a 400-barrel mill.

New Orleans—Sugar Refinery, Land Cultivation, etc.—The Eleonore Planting Co. has been incorporated for land cultivation and to manufacture and refine sugar, etc., with Adolph J. Troendle, president; Gustave A. Spor, vice-president, and William E. Cage, secretary-treasurer; capital stock \$50,000.

Shreveport—Cotton Mill.—The Hargrove Cotton Mill Co. has been incorporated, with capital stock of \$250,000, for the purpose of erecting the cotton mill lately reported as projected. The incorporators are H. H. Hargrove, Jules Dreyfus, Leon M. Carter, Wm. Winter and others.

MARYLAND.

Baltimore—Brewery.—William H. Kruger of Cleveland, Ohio, John H. Morgan of Baltimore and others have awarded contract to George W. Carter of No. 338 South Mount street for the erection of a six-story building for brewery, building to cost \$50,000; a two-story brick bottling-house, 31x60 feet, a

three-story ice plant and a three-story brick malthouse will also be erected; building will be heated by steam.

Baltimore—Electric-light Plants.—The Maryland Amusement Co., Adolph Kuhn, president, has awarded contract to the Atlantic Electric Co., 326 North Howard street, for installing a system of electric lighting at Deer Park and Woodside Park; about 5000 lights will be used in each place.

Baltimore—Store Building.—George C. Haskell is preparing plans for the erection of a large addition to the carpet warehouse of O. Herring, Sons & Co.

Baltimore—Novelty Works.—The Baltimore Ball Bearing Co. (reported during the week as incorporated) has completed its organization with John W. Woodland, president; Ralph S. Jackson, vice-president; William D. Allen, secretary. The company will manufacture and equip freight and passenger cars with the Norwood ball bearings.

Baltimore—Telephone Construction.—The Baltimore Construction Co., for constructing and operating telephone or telegraph lines, has been incorporated by William H. Martin, Pinkney W. Wilkinson, Charles J. Taylor and others; capital stock \$10,000.

Baltimore—Land.—The Berwyn Heights Land Co. has been incorporated for the purpose of dealing in lands by William O. Nelson, Robert C. Hull of Baltimore, Leonard R. Coale of Anne Arundel county, Lewis Mandheim and Charles A. Baker of Washington, D. C.; authorized capital \$3000.

Baltimore—Stone Quarry, etc.—The McClenahan & Bro. Granite Co. of Port Deposit, Md., is developing a large stone quarry near Woodberry. The plant consists of two large stone crushers, with elevator and screens, and is crushing about 500 tons of stone daily; the engine-house has three large boilers and a 70-horse-power engine; in the quarry is a blacksmith and carpenter shop, a steam automatic drill and two steam hand-feeding drills; 110 operatives employed.

Centreville—Ice Factory.—W. M. Armstrong will erect an ice factory to have capacity of five tons per day.

Easton—Mattress Factory.—Robert L. Kemp contemplates the establishment of a mattress factory.*

Hagerstown—Wagon Works.—Lerry Myers, president, and Max Robinson, manager, of the Auburn Wagon Works of Martinsburg, W. Va., are investigating with a view of removing their plant to Hagerstown.

Hagerstown—Hosiery Mill.—The Blue Ridge Knitting Co. (reported as incorporated last week), operated by S. H. Weihenmayer in the manufacture of hosiery, has invested about \$20,000, a part of which will be used for the purchase of additional machinery; present capacity 1000 dozen pairs of hose per week; sixty machines are operated and fifty-five hands employed.

Hagerstown—Cotton-twine Mill.—J. D. Rutledge contemplates establishing a plant at some point in the South for the manufacture of cotton twine, cordage, etc.*

Ilchester—Cotton Mill.—The Thistle Mills Co. will erect another mill to double capacity; equipment of present mill 8000 spindles and 240 looms; S. F. Patterson, president.

Pen-Mar—Creamery.—The Blue Mountain Creamery, B. S. Frantz, proprietor, is installing machinery for the manufacture of cream cheese.

MISSISSIPPI.

Ellisville—Cotton Factory.—S. J. Johnson, I. Anderson, J. P. Myer, N. B. Shelby, B. F. Fridge and W. S. Pettis of Ellisville, E. H. Roberts of Baltimore, Md., and C. L. Worham of Memphis, Tenn., have organized the Ellisville Cotton Mill Co., with a capital stock of \$500,000, for the manufacture of cotton goods, rope, trousers, shirts, etc.

Greenwood—Cotton-oil Mill.—F. G. Kinney and others of Birmingham, Ala., will erect a \$100,000 cotton-oil mill at Greenwood.

Wesson—Cotton Mill.—The Mississippi Mills (lately reported as to improve its plant) will install 250 looms, three lappers, twenty-four cards, drawing machinery and one engine. A 40-foot extension is being built to one of its four-story buildings, intended to accommodate lappers, etc., all cotton spinning to be transferred to No. 3 mill and finishing department to No. 2. Total cost will be between \$75,000 and \$100,000. Contracts for these improvements are practically closed; R. E. Williams, secretary-treasurer.

Yazoo City—Furniture Factory.—The Yazoo Furniture Co. has been incorporated,

with a capital stock of \$50,000, by S. Wachenheim, W. O. Menger and George Anderson.

MISSOURI.

Aurora—Lead and Zinc Mines.—A. J. Oehring and M. M. Wolforth have purchased site from S. R. Ping at Aurora for \$10,000 and will erect large mining plant.

Aurora—Lead and Zinc Mining.—S. R. Ping, Box 22, Galena, Kans., after having let contract for the erection of a 100-ton mill at Aurora, sold the mill site to I. C. Merrill, representing himself and Boston parties, who assumed the contract for the mill.

Brookfield—Sewerage System.—The city has issued bonds for the construction of a sewerage system. Address D. F. Howard, city clerk.

Cartersville—Lead and Zinc Mines.—J. L. Merrill of Butte, Mont., lately reported as having purchased two mines at Cartersville, has already two mills in operation and will probably build more in the near future.

Carthage—Mining.—A \$40,000 company will be organized for the purpose of developing and mining land in and around Carthage. W. D. Calkins, W. S. Weesner, D. D. Kerr, John Henkel, J. J. Rambo, C. B. Hussey and J. T. Bates have been appointed a committee to solicit subscriptions.

Central City—Lead and Zinc Mining.—Paulson & Stevens of Galena, and Messrs. White of St. Louis and Keller, Vorwald and Pauly of Edwardsville, Ill., have formed the Edwardsville Mining Co., with a capital stock of \$12,000. The company has eight well-developed lots at Central City, and will erect a mill.

Galena—Lead and Zinc Mines.—Murphy, Frell & Co. will open two new mines at once and install additional pumping machinery.

Hecla—Mining.—Fred Bush, Hall's Neck; J. R. Bothwell, Chicago; Joseph R. Morin, Galena, and A. E. Spencer, Joplin, have incorporated the Hecla Mining Co., with a capital stock of \$24,000.

Jackson—Mining.—The Jackson Hollow Zinc Co., composed of A. Burdock, E. A. Benson and E. B. Hayward of Davenport, Iowa, has leased forty acres of land at Jackson and contracted for the erection of a mill.

Kansas City—Mining.—Chartered: The Kansas City Zinc Mining Co., with a capital stock of \$2000, by William Barton, W. C. Tabb and Walker Cowherd.

Kansas City—Mining.—Chartered: The Federal Zinc Mining Co. by John Moore, S. F. Scott, W. D. Snyder and others; capital stock \$50,000.

Kansas City—Produce.—Chartered: The Richard Butler Produce Co., by Richard Butler and others; capital stock \$1000.

Kansas City—Zinc Mines.—R. H. Stewart, J. M. Mason and W. B. Cheever have incorporated the Victoria Zinc Mining Co., with a capital stock of \$30,000.

Kansas City—Land Company.—Thomas B. Tomb, George F. Winter and Robert L. Winter have incorporated the Tomb-Winter Land Co.; capital stock \$10,000.

Kansas City—Zinc Mines.—The Crown Point Zinc Mining Co. has been incorporated, with a capital stock of \$100,000, by C. E. Cranniss, F. B. Wilcox and Hugh McEaton.

Poplar Bluff—Barrel Factory.—Lowell M. Palmer of New York, one of the officers of the Oxley Stave Co. plant, now merged into the H. D. Williams Cooperage Co., is investigating with a view of establishing a slack-barrel plant in Poplar Bluff. All modern machinery will be installed, and a recently-patented device for electrically welding wire, which will be used for hoops instead of wood, will be used. The buildings are reported to cost about \$100,000.

Sedalia—Insect-powder Factory.—The Worrell Manufacturing Co., for the purpose of manufacturing a powder for killing insects patented by Mr. Worrell of Paris, Mo., has been incorporated by W. F. Hansberger, J. H. Rodes, James T. Montgomery, Thomas F. Mitchum and others with a capital stock of \$50,000.

St. Joseph—Syrup, etc., Factory.—John Townsend, John H. West and Edward F. Hanna have incorporated the National Manufacturing Co., with a capital stock of \$30,000, to manufacture jams, syrups, preserved fruits, etc.

St. Joseph—Fence Company.—Chartered: The Missouri Anchor Fence Co., by E. C. Smith, E. A. King, J. O. Barkley and others; capital stock \$15,000.

St. Louis—Commission Company.—F. P. Brockmann, Otto Kahle and George Kahle have incorporated the Brockmann-Kahle Commission Co., with a capital stock of \$420,000.

St. Louis—Saw Mill.—The Louis Werner Saw Mill Co. has been incorporated, with a capital stock of \$150,000, by Louis Werner, F. P. Price and Edmund A. Thomas.

St. Louis—Flour Mill.—Chartered: The Union Roller Milling Co., by C. A. Schocke, Charles Schocke and Joseph Zimheld; capital stock \$10,000.

St. Louis—Lithia-water Company.—The Jackson Lithia Water Co. has been incorporated for the purpose of dealing in mineral waters by J. H. La Rue, C. R. Atkinson, C. C. La Rue, W. J. Atkinson and Jacob Wilber; authorized capital \$500,000.

St. Louis—Car Shops, etc.—The Pullman Palace Car Co. of Chicago, Ill., will erect a two-story office and shop building 101x62 feet, to cost \$9000; a one-story shop 100x180 feet, to cost \$4000; one-story shop 19x63 feet, to cost \$1300, and a two-story dry-kiln 22x37 feet, to cost \$1500, entire cost of the buildings being about \$27,800.

St. Louis—Quarrying.—The Viernow-Meyenburg Quarry & Cut Stone Co. has been incorporated by Clementine Meyenburg, Felix T. Meyenburg, Gustav M. Viernow and Philip G. Anton; capital stock \$25,000.

St. Louis—Construction Company.—T. J. Prosser, R. A. Beurman and Cyril Williams have incorporated the Hazell Wood Construction Co., with a capital stock of \$6000.

St. Louis—Manufacturing.—The International Manufacturing Co. has been incorporated, with a capital stock of \$72,000, by J. W. Blake, H. E. Knapp, A. A. Quickland and John W. Hamilton.

St. Louis—Zinc Mines.—The Edgar Zinc Co. has increased its capital stock from \$100,000 to \$500,000.

St. Louis—Construction Company.—Cyril Williams, T. J. Prosser and Rudolph A. Buerman have incorporated the Hazelwood Construction Co., with a capital stock of \$6000.

NORTH CAROLINA.

Albemarle—Flour Mill.—W. A. Marks has let contract for a roller flour mill.

Cook—Flour Mill.—D. M., Wade and June Brittain have established a \$2800 roller flour mill.

Durham—Cigar Factory, etc.—The Durham Real Estate, Mercantile & Manufacturing Co. has been incorporated, with R. B. Fitzgerald of Durham, president; D. A. Lane of Washington, D. C., secretary-treasurer; P. H. Smith of Durham, general manager, for the manufacture of cigars, cheroots, to conduct a mercantile business, etc.; capital stock is \$20,000 with privilege of increasing to \$100,000. (The incorporators of this company are all colored men.)

Durham—Electric-light Plant.—The Durham Electric Lighting Co. (lately reported as having awarded contract for additional machinery) has reorganized with Major William A. Guthrie, president; T. B. Fuller, vice-president; R. L. Lindsay, secretary and treasurer, and H. T. Brown, superintendent. The company also has arranged for the erection of a large power-house.

Enfield—Stemmary.—The \$4500 company lately reported as to be organized for the erection of a stemmary has been incorporated as the Enfield Stemmary Co., with C. E. McGwigan, president, and W. H. McDonald, secretary-treasurer.

Forest City—Cotton Mills.—The Florence Mills has increased its capital stock from \$100,000 to \$300,000, and will install 10,800 additional spindles, and looms; present equipment 4200 spindles.

Greensboro—Iron Furnace.—It is reported that the Empire Steel & Iron Co. (office Empire Building, New York city) will erect another iron furnace.

Greensboro—Iron Furnace.—The Empire Steel & Iron Co. (of Empire Building, New York) is having the Woodstock (Ala.) Iron Furnace and the Bay State Furnace at Fort Payne removed to Greensboro to complete the furnace plant of which W. L. Sims has been made general manager.

Greensboro—Electric Lights, Water Works, Sewerage, etc.—The city will hold an election on July 18 to decide the issuance of \$300,000 of bonds to be used for the following purposes: \$25,000 for lights, \$100,000 for water works, \$65,000 for sewerage, \$35,000 for City Hall and market-house and \$75,000 for street improvements. Address "The Mayor."

Henrietta—Cotton Mills.—The Henrietta Mills will install additional spindles and looms; present equipment 60,000 spindles and 2000 looms.

Hickory—Shingle Mill.—Hutton & Bourbonnais will establish a shingle mill in connection with their saw mill.

High Point—Flour Mill.—Teague, Horney & Co. are remodeling their mill and increasing capacity to sixty barrels; contract let.

Hope Mills—Cotton Mill.—The Hope Mills Manufacturing Co., lately reported as to erect another cotton mill, state that there is no truth whatever in the announcement.

Kernersville—Knitting Mill.—Bruce Beard and Dr. W. C. Ashworth are establishing a knitting mill.

Kinston—Cotton Mills.—It is reported that the Kinston Cotton Mills has increased its capital stock \$70,000, and has placed an order for additional machinery.

Lincolnton—Water-power Development.—Cotton Mill, etc.—It is reported that the D. A. Tompkins Co. of Charlotte has sold to the High Shoals Manufacturing Co. at \$50,000 1200 acres of land on both sides of the Catawba river, High Shoals, near Lincolnton, including water rights. The purchaser's intention is said to be the development of the water, erection of electric plant to transmit the power and building of two large cotton mills.

Lumberton—Saw Mills.—The Southern Saw Mills & Lumber Co., Augustus Miller, president and general manager, Bourse Building, Philadelphia, Pa., has contracted for two large band-saw mills, with an annual capacity of 15,000,000 feet; one will be located at Lumberton, where the company is erecting a plant which will cost in the neighborhood of \$50,000; the other will be located on the line of the Carolina Northern Railroad, where it has 40,000 acres of timber.

Mt. Pleasant—Cotton Mill.—Cook & Foil and Dr. Paul Barringer will organize a company for the erection of a 5000-spindle mill, though 2500 to 3000 spindles only may be installed at first.

North Wilkesboro—Stave Mill.—Cowles & Cozad will establish a stave mill.

Salisbury—Cotton Mills.—The Salisbury Cotton Mills will install 5000 additional spindles and 100 looms; present equipment 15,800 spindles and 503 looms.

Sanford—Water Works.—The city will construct a water-works system. Address W. J. Edwards, mayor.

Scotland Neck—Knitting Mill.—M. A. Smith will erect a mill at Scotland Neck.

SOUTH CAROLINA.

Abbeville—Electric Lighting.—The city will open bids June 15 for electric lighting for three or more years; Dr. G. A. Neuffer, chairman of committee.

Belton—Cotton Mill.—The company reported during the week as forming for the erection of a cotton mill has been organized as the Belton Cotton Mill by F. J. Pelzer of Charleston, S. C.; E. A. Smyth of Pelzer, S. C.; R. A. Lewis and J. F. Rice of Belton, S. C. The size of the mill or the amount of the capital has not as yet been decided. Address E. A. Smyth.

Cameron—Tobacco Company.—Chartered: The Cameron Tobacco Co., with D. W. Crook, president, and G. D. Dantzer, secretary.

Chester—Woodworking Factory and Machine Shops.—The Chester Machine Co., operating machine shops, and B. M. Spratt & Co., manufacturers of building materials, have consolidated and are erecting additional sheds and will add to the buildings as their needs demand.

Columbia—Phosphate Mill.—The Virginia-Carolina Chemical Co. of Richmond, Va., has purchased the phosphate mill of the Globe Fertilizer Co. for \$50,000; will erect a new plant double the capacity of the present one and install new machinery.

Gaffney—Water Works.—The date for opening bids on construction of the city water works lately noted has been postponed from May 24 to May 31; A. N. Wood, chairman of board.

Greenville—Cotton Mill.—The directors of the American Spinning Co. have authorized the purchase of the additional machinery recently noted as to be installed; about \$25,000 will be expended.

Greenville—Electric-light Plant.—The National Gas & Construction Co. of Philadelphia, Pa., has purchased the plant of the Greenville Gas & Electric Light Co. and contemplates making considerable improvement in the light service and the development of the power capacities of the plant.

Honea Path—Cotton-oll Mill.—The Honea Path Oil Mill Co. has been incorporated, with a capital stock of \$15,000, by W. A. Strother of West Union, R. M. Richardson of Seneca, J. F. Moore, J. C. Milford, J. V. Kay, T. H. Brock and C. E. Harper of Honea Path.

Richland—Drug Company.—The Richland Drug Co. has been incorporated by William M. Bird (president), H. F. Welch (vice-president), J. C. Bulow and others; capital stock \$4000.

Ridge Spring—Compress.—The Ridge Spring Cotton Oil Co. will install a round-bale compress.

Seneca—Compress.—The Seneca Oil Mill will install a round-bale compress.

Union—Knitting Mills.—The Excelsior Knitting Mills (lately reported) has completed its dye plant and has in course of construction the spinning mill of 5000 spindles; J. H. Gault, treasurer and manager.

TENNESSEE.

Bluff City—Flour Mill.—W. B. Bachman is remodeling his mill and increasing capacity to fifty barrels.

Bristol—Iron Furnace.—The Virginia Iron, Coal & Coke Co. will remodel and improve its furnace, erect another sandhouse and smelting cupola, which addition will increase capacity of the furnace from 220 tons to 400 tons per day.

Brownsville—Water Works.—The city has decided by popular vote to issue \$27,500 of bonds for construction of proposed water works. Address "The Mayor."

Brownsville—Cotton Factory.—Efforts are being made for the establishment of a cotton factory. Address Capt. J. B. Phillips.

Chattanooga—Clothing Company.—The Davidson Clothing Co. has been incorporated.

Chattanooga—Pottery.—The Tennessee Pottery Co., Theodore Richmond, president, will erect larger buildings and additional kilns and install new machinery for the manufacture of roof tiling, clay guttering, fancy and decorative tiles, etc.

Chattanooga—Safety-vault Works.—Linn White, J. F. Casey and M. M. Hedges will organize the Pneumatic Safety Vault & Jail Co. for the manufacture of jail cells and vaults.

Columbia—Grain and Feed Company.—Chartered: The City Grain & Feed Co., with a capital stock of \$40,000.

Greenville.—Chartered: The Mocheim & Lick Creek Telephone Co. of Green county.

Jellico—Street Improvements.—The city will hold an election on May 29 to decide the issuance of \$6000 of bonds for street improvements. Address "The Mayor."

Knoxville—Desk Factory.—The Utica Cabinet Co. (lately reported as to remove its desk factory to Knoxville from Utica, N. Y.) has incorporated with a capital stock of \$30,000; incorporators, W. S. Shields, S. H. George, J. P. Hynes, J. A. Anderson, E. Henegar and others.

Knoxville—Coke Ovens.—The Tennessee Gas & Coke Co. (previously reported as incorporated by Frank S. Hambleton of Baltimore and others) will erect ten to fifteen ovens to supply fuel gas for electric power-house of Knoxville Electric Light & Power Co. and illuminating gas for buildings and residences. The ovens will be built on the new plans of the Keneval process. It is the purpose of the company to erect 500 of these ovens later on. Address C. C. Howell, local representative.

Memphis—Brick Works.—A. C. Treadwell, J. E. Beasley, J. M. Peters, L. M. Niblett and F. M. Norfleet have incorporated the De Soto Land & Brick Co. and purchased fifty acres of land, including the property of the old Memphis Manufacturing & Brick Co.

Memphis—Mercantile.—W. B. Mallory & Sons' Co. has been incorporated by W. B. Mallory and others; capital stock \$75,000.

Mossy Creek—Woolen Mills.—The Mossy Creek Woolen Mills (operating twenty-eight looms) has been incorporated, with a capital stock of \$30,000.

Nashville—Coal Mines.—The Bon Air Coal, Land & Lumber Co., J. M. Overton, general manager, will expend about \$25,000 in the development of two new coal mines, which will be equipped with the latest-improved machinery and give the company a daily capacity of from 1800 to 2000 tons.

Whitesburg—Canning Factory.—The Whitesburg Canning Co. has been formed for the establishment of a canning factory.

Whitesburg—Flour Mill.—W. H. Earnest of Greene county has purchased the Marble City Flour Mill, and will repair and put in operation.

TEXAS.

Beaumont—Timber Lands.—Dr. R. F. Seatrunk has sold 7500 acres of timber lands to Northern parties who will develop.

Belton—Lumber and Building-material Company.—The Merchants' Lumber Co. has been incorporated, with T. W. Cochran, president; S. M. Ray, vice-president; Morris Tarver, secretary, and J. Z. Miller, Jr., treasurer, to deal in lumber and building material; capital stock \$10,000.

El Paso—Electric-light Plant.—A. Kra-

kauer, J. P. Dieter, A. Courchesne, Felix Martinez and others will organize a company for the establishment of an electric-light plant; \$20,000 has been subscribed.

El Paso—Saw Mill and Electric-light Plant. Mr. Davidson, general manager of the Alamogordo Lumber Co. of Alamogordo, Texas, has made proposition for the establishment of a saw mill and electric-light plant in El Paso.

Fort Worth—Mercantile.—The A. E. Want Co. has been incorporated to conduct a mercantile business by A. E. Want, S. C. Jackson and George R. Clayton; capital stock \$65,000.

Honey Grove—Mercantile.—The Hockaday-Gray Company has been incorporated to conduct a general mercantile business by Fred. T. Hockaday, R. J. Gray and B. M. Burgher; capital stock \$30,000.

Houston—Furniture Factory.—Efforts are being made for the organization of a company to establish a \$40,000 furniture factory. Address H. W. Garrow, president Cotton Exchange.

Houston—Oil Refinery.—The Southwestern Oil Co. is now preparing to build a refinery for treating oils for lubricating and illuminating purposes. The mill is intended to consume the entire Texas product; B. F. Bonner, manager.

Lufkin—Saw and Planing Mill.—E. W. Frost of Texarkana, Ark., will probably erect a saw and planing mill at Lufkin.*

Marlin—Water Works.—J. M. Kennedy, mayor, will grant franchise for construction of water works.

Olive—Canning Factory.—G. A. Sternberg, V. A. Petty, J. S. Davis and others have incorporated the Olive Canning Co., with a capital stock of \$50,000.

Port Arthur—Water Works.—The International Trading Co. (as representative) will install the water-works plant lately reported as to be constructed by Edward Wagner of Berlin, Germany.

Turtle Bayou—Irrigation Plant, etc.—C. F. Blank of St. Louis, Mo., is president; W. C. Moore of Liberty, Texas, vice-president; F. W. Schwettmann of Lincoln, Mo., secretary, and Charles L. Heitzberg of St. Louis, treasurer, of the Trinity Rice, Land & Irrigation Co., reported last week (under Houston) as having been formed in St. Louis for the purchase of 15,000 acres of land in Chambers county, and as to lease 10,000 additional to be cultivated in rice; it was also stated that a canal with capacity for irrigating 25,000 acres of land would be constructed; a pumping station will be erected at Turtle Bayou; capital stock \$260,000.

Waxahachie—Compress.—H. D. Rosser (whose plant was destroyed by fire several months ago) has associated with him V. O. Rosser, and is rebuilding on an enlarged scale; both the square and round-bale systems will be employed. The plant will cost \$10,000 and have a capacity of 100 bales per day.

VIRGINIA.

Alexandria.—Chartered: The Dental College and Hospital of Surgery, with W. W. Evans of Washington, D. C., president; capital stock \$25,000.

Ashland and Other Counties—Colonization and Improvement.—The Waubun Colonization & Improvement Co., with a capital stock of \$5,000,000, has been incorporated at Kenosha, Wis., with W. M. Cowell of Kenosha, president. It controls over 400,000 acres of coal and oil lands in Virginia, which will be opened for colonization purposes. Large tracts of land in Price, Lincoln, Ashland and Oneida counties have been purchased and will be colonized.

Austinville—Lead Mines, etc.—The Wythe Lead & Zinc Mine Co., John C. Raper, president (lately reported), contemplates installing additional electrical machinery for operating power shovel and hoisting machinery.*

Edom—Flour Mill.—D. A. Swank has contracted for remodeling his 50-barrel mill.

Hampton—Land.—The Virginia Land Co. has been incorporated, with a capital stock of \$50,000, by Charles H. Batton, Jas. H. Page, S. E. Blue and others.

Hiltons—Brick Plant.—The brick works lately reported as to be established by J. A. Hedgecock will have a capacity of 30,000 brick per day and employ about forty operatives; machinery purchased.

Kinsale—Canning Factory.—M. F. Thrift is arranging to erect a canning factory at Currioman.

Lynchburg—Knitting Mill.—The Midland Hosiery Co., operating a knitting mill, has been incorporated by George R. McAusland, Georgiana W. McAusland, Fred W. Moore, Jos. G. Burton and R. O. Blackford. The capital stock is to be not less than \$25,000 nor more than \$50,000. The company will

install 120 additional machines, which will produce 500 dozen socks per day and necessitate employing 200 operatives.

Norfolk—Real Estate.—The South Norfolk Co., for the purpose of dealing in real estate, has been chartered with W. W. Tunis, Norfolk, president; A. R. Cathcart, Baltimore, Md., vice-president; Matt M. Tunis, Norfolk, secretary, and Richard B. Taylor, Norfolk, treasurer. The capital stock is to be \$70,000.

Norfolk—Land and Lumber Company.—The Franklin Land & Lumber Co. has been incorporated, with George W. Bright, Columbus, Ohio, president; O. D. Jackson, Norfolk, vice-president; R. R. Rickley, Columbus, treasurer, for the purpose of dealing in lumber and timber, amount of real estate to be held not to exceed 500,000 acres; capital stock is \$50,000.

Norfolk—Ferry Company.—The Norfolk Transit Co. has been incorporated for the purpose of operating and maintaining a ferry system, with James Riddle, president; A. Brooke, vice-president; Goldsborough Serpell, secretary and treasurer; capital stock \$2500.

Norfolk—Copper-smelting Plant.—The Blue Wing Copper Co. has, it is reported, arranged for the erection of a large copper-smelting plant at West Norfolk. It was reported last week in the Manufacturers' Record that the Atlantic & Danville Railroad Co. had given site at West Norfolk for the establishment of a large copper-smelting plant.

Palmyra—Telephone and Telegraph.—The Fluvanna Telephone & Telegraph Co. has been incorporated, with a capital stock of \$5000, by C. E. Jones, Carysbrook, president; William Schlatter, treasurer, and L. O. Haden, secretary. The plan of the company at present is to form a network of telephone lines over Fluvanna county, and if successful in this, its purpose is to extend lines in other counties.*

Petersburg—Woolen Mills.—Northern capitalists contemplate erecting woolen mills on the Appomattox river, and C. R. E. Burghyn, civil engineer of Richmond Va., is investigating the water-power of the river.

Princess Anne—Land Improvement.—It is proposed to organize the Cape Henry Land & Improvement Co. for the purchase of 5000 acres of land adjacent to and including Cape Henry in Princess Anne county, which will be improved as a summer resort at a cost of about \$25,000.

Pulaski City—Telephone System.—The Wythe Telephone Exchange has been incorporated by D. D. Hull, Jr., B. F. Garnett, B. Laughton and George M. Holstein; capital stock \$5000.

Richmond—Casket Company.—The Virginia Casket Co. has been incorporated, with M. J. Harris, manager, and J. R. Williams, H. W. Woods, H. B. Worth and John Tyler, directors; capital stock \$25,000.

Richmond—Knitting Mill.—J. L. Hill, chairman of Young Men's Business League, is interesting himself in the matter of a knitting mill for several parties who anticipate establishing a mill in Richmond.

Suffolk—Water Works.—The Portsmouth & Suffolk Water Co. (John McNamee, Brooklyn, N. Y., president) will increase the capacity of its plant from 2,000,000 to 4,000,000 gallons per day.

Tazewell—Ice Factory.—Buston & Sons will install an ice plant.

Tazewell—Electric-light Plant and Ice Factory.—Spotts Bros. have received franchise for the erection of an electric-light plant, and will erect an ice factory in connection.

WEST VIRGINIA.

Charleston—Transportation, Mining, etc., Company.—E. J. Hickey, Henry Holtrup, J. Y. Thomas, John Hoffman, J. Y. Hatfield and F. J. E. Bramlage of Covington, Ky., have incorporated the E. J. Hickey Transportation Co. for the purpose of conducting a general transportation business on the Kanawha and Ohio rivers, mining, etc.; authorized capital \$50,000.

Fairmont—Oil and Gas Company.—W. R. Huffman, D. S. Huffman, D. L. L. Yost, T. N. Parks and A. O. Stanley have incorporated the Fairmont Oil & Gas Co., with an authorized capital of \$500,000.

Kingwood—Coal and Coke Companies.—Edward Corden, D. S. Gutherie, L. L. Saunders and E. M. Keatley, all of Charleston, and John Sliney of Kingwood have incorporated the Reno Coal & Coke Co., the Owens Coal & Coke Co., the Hyde Coal & Coke Co. and the Simpson Coal & Coke Co. Purpose of each, dealing in coal lands, and authorized capital \$40,000.

Mannington—Glass Works.—The Mannington Glass Co. has been incorporated for the purpose of operating glass works by F. W.

Stewart, M. F. Hamilton, J. M. Tetrick, J. O. Huey and A. C. Free; authorized capital \$500,000.*

Martinsburg—Mining.—The Powhatan Mining Co. has been incorporated, with an authorized capital of \$1,000,000, for the purpose of mining gold, silver and other minerals; incorporators, Larman G. Johnson of Morgansville, Va.; William C. Hoslage, Joseph F. Erney, Lena W. Lapp and F. A. Emery of Pittsburg, Pa.

Morgantown—Oil Lands.—J. C. Pickenbaugh, C. R. Hayes, Forney Donley, George C. Steele and J. C. McNickers have incorporated the Globe Oil Co., with an authorized capital of \$1,000,000.

Parkersburg—Publishing.—The Sentinel Publishing Co. has been incorporated, with a capital stock of \$15,000, by R. E. Horner, C. P. Harvey, George S. Summers and others.

Phillippi—Coal Mines.—Alston G. Dayton, C. F. Teeter and James E. Hall of Phillippi; J. C. Menohar of Latrobe, Pa.; John Kerr of Pittsburg, Pa.; Albert Thompson of Davis, W. Va., and W. Patterson of Philadelphia have purchased 3000 acres of coal land near Phillippi for \$50,000, and will develop it.

Piedmont—Coal Mines.—J. O. J. Greene is developing new coal mine.

Shepherdstown—Electric-light Plant.—John M. Livers of Harper's Ferry, W. Va., has received contract for the erection of the \$10,000 electric-light plant previously noted as to be erected by the Shepherdstown Electric Light & Power Co.; plant will be operated by steam-power.

Sun—Coke Ovens, etc.—The Sun Coal & Coke Co. is erecting 100 new coke ovens and developing additional coal mines, increasing its capacity to 2000 tons per day. This item reported by error last week under Fayetteville.

Wheeling—Knitting Mill.—Robert G. Blankenson has leased building and will equip it with machinery for the manufacture of ladies' garments.

Wheeling—Tinplate, etc., Works.—The Wheeling Steel & Iron Co. (reported several months ago as to make extensive improvements) will at once erect a tinplate mill and a wrought-iron and steel-pipe and tube works at a cost of \$750,000.

Wheeling—Iron Furnaces and Steel Plant.—The National Steel Co. (which has two furnaces and two steel mills at Mingo Junction) has purchased 110 acres of land adjoining this property and will erect two furnaces of 500 tons daily capacity, besides another steel plant and a finishing mill for bars, sheets and merchant iron. The improvements, including real estate, will cost about \$1,000,000.

Wheeling—Novelty and Machine Works.—R. E. Schubart, August Wiedebusch, Chas. Menkemeller and Herman Friedrich have formed the Wheeling Novelty and Machine Works for the manufacture of bicycles and presses for glass factories and other machinery. Oscar Smith, whose machine shop is acquired by the company, will be manager.

BURNED.

Baltimore, Md.—American Lead & Shot Co.'s plant for the manufacture of clay-pigeon targets; estimated loss \$75,000.

Cordele, Ga.—The Canda Lumber Co.'s mills; estimated loss \$25,000.

Daleville, Ark.—The novelty works and machine shops of the Arkadelphia Lumber Co.

Jefferson, Ga.—Jefferson Oil Mill; estimated loss \$4000.

Louisville, Ky.—Joseph Dreidel's cooper shop; estimated loss \$1500.

Lynchburg, Va.—The Lynchburg Ice & Refrigerator Plant, estimated loss \$25,000; Schilling & Bruning's dye works, estimated loss \$35,000; Stallings, Hancock & Co.'s tobacco factory, estimated loss \$12,000.

Morven, Ga.—Dry-kilns and planing mill of the Dasher Lumber Co.

Purcellville, Va.—The flour mill of Albert & D. H. Bolyn.

BUILDING NOTES.

Atlanta, Ga.—Office Building.—George C. Lowndes has purchased site adjacent to his seven-story office building for \$7500, and is having plans made by G. W. Lane for the erection of a three-story addition so constructed that additional stories can be added if wanted.

Baltimore, Md.—Bank Building.—Baldwin & Pennington will prepare plans for the eight-story bank building reported during the week as to be erected by the Guardian

Trust & Deposit Co., 7 North Calvert street.

Baltimore, Md.—Dwellings.—William H. Kruger of Cleveland, Ohio, and John H. Morgan of Baltimore, Md., will erect sixteen two-story brick dwellings, to have steam heat and cost \$700 each.

Baltimore, Md.—Office Building.—Arthur W. Robson 125 E. Baltimore street, will remodel two buildings, erecting modern three-story office building.

Baltimore, Md.—Building.—The Baltimore Steam Packet Co. will erect a four-story brick building 23x50 feet to cost \$12,000.

Baltimore, Md.—Dwelling.—Rev. Charles Damer will erect a three-story parish 68x120 feet to cost \$40,000.

Bonham, Texas—Church Building.—Contract has been awarded for the erection of the \$12,000 Methodist church building. Address "The Pastor."

Bristol, Tenn.—Custom-house.—Hon W. P. Brownlow of Washington, D. C., states that the government architect has drawn the outlines of the plans for the \$50,000 United States custom-house to be erected at Bristol. It will be a three-story building 90x70 feet.

Brownsville, Tenn.—School Building.—The city will hold an election to decide the issuance of \$12,000 of bonds for school purposes. Address "The Mayor."

Chattanooga, Tenn.—Store and Office Buildings.—T. T. Wilson will erect a brick office building and two brick stores.

Chattanooga, Tenn.—Apartment-house.—Z. C. Patten has purchased site for \$21,500 and will erect brick apartment-house to cost \$50,000, to have steam heat, etc.

Chattanooga, Tenn.—Home.—J. C. and H. D. Breeding, architects, have awarded contract (exclusive of plumbing) to Andrews & Co. at \$6500 for the erection of the proposed working-girls' home.

Columbia, S. C.—Hotel.—Efforts are being made for the erection of the \$100,000 hotel reported last week. C. B. Simmons, 1230 Washington street, is the promoter of the enterprise.

Corsicana, Texas—Business Building.—Col. R. M. Collins has let contract for the erection of a brick and stone business house to cost \$6000.

Crystal River, Fla.—Dr. J. D. Bennett has let contract for \$3000 residence.

Greensboro, N. C.—Business Building.—Rev. W. L. Grissom will erect a three-story structure, modern improvements.

Houston, Texas—Warehouse.—A \$15,000 company will be organized for the erection of a tobacco warehouse. Address H. W. Garrow, president Cotton Exchange.

Joplin, Mo.—Store Building.—The Famous Clothing Co., L. Jacobs, local manager, will erect a five-story 100x110-foot building, with basement, steam heat, elevators and all modern appliances to cost about \$50,000.

Kansas City, Mo.—Flats and Store Buildings.—W. C. Miller is erecting a row of modern flats 115x52 feet to cost \$20,000; Dr. Carl Field will erect a one-story store building.

Louisville, Ky.—H. P. McDonald has made plans for Veteran Firemen's headquarters, to cost \$4000.

Lynchburg, Va.—Residence.—E. L. Bell has contracted with John P. Pettyjohn & Co. for the erection of a residence after plans by E. G. Frye.

Marion, N. C.—Residence.—Hook & Sawyer of Charlotte will prepare plans for a residence for T. F. Wrenn.

Martinsburg, W. Va.—Opera-house.—Geo. D. Whitson has prepared plans and contract will soon be let for the erection of the three-story 80x100-foot opera-house of H. H. Rutherford; seating capacity 1000.

Mt. Sterling, Ky.—Hotel.—D. W. and Edgar Baum will erect a 25-room hotel, as lately mentioned.*

Newberry, S. C.—Cottages.—Newberry Cotton Mills will erect fifteen additional cottages.

Newport News, Va.—Church.—The vestry of St. Paul's Episcopal Church invite proposals until June 1 for the erection of a church 60x97 feet, brick, stone, terra-cotta and steel construction. A certified check for \$300 must accompany each bid; \$10,000 bond required. Separate proposals will be received for furniture and for an indirect hot-air-heating system. Plans may be seen at the office of P. Thornton and E. A. Marye, architects. Usual rights reserved.

Newport News, Va.—Building.—Winston & Co. invite proposals until June 3 for the erection of a four-story and basement business block 90x100 feet, brick, stone and terra-cotta front; partially steel construction. A certified check for \$500 must accompany each bid; \$20,000 bond required.

Plans may be seen at the office of P. Thornton and E. A. Marye, architects. Usual rights reserved. Separate proposals will be received for elevators, steam-heating apparatus and skylights.

Plaquemine, La.—Store Building.—Capt. Charles A. Brusle will erect a brick store building.

Richmond, Va.—Store Building.—Harry Marks will erect a new store building.

Ruston, La.—Lodge Building.—The Knights of Pythias will erect a two-story brick lodge building.

Sanger, Texas.—Schoolhouse.—The city will issue bonds for the erection of a \$4000 schoolhouse. Address "The Mayor."

Searcy, Ark.—College Building.—Newport Builders' Supply & Hardware Co. of Newport, Ark., has received contract for the erection of the \$32,000 college building of the Galloway College, as recently reported. This contract does not include heating, lighting and plumbing.

Valdosta, Ga.—Building.—Col. W. H. Griffin has let contract for the erection of two-story brick building 30x100 feet, to be trimmed with stone and marble.

Washington, D. C.—College.—James G. Hill has prepared plans for a three-story addition to the Washington College buildings at Eckington to be used as dormitories, classrooms and gymnasium; cost about \$11,000; Rev. F. Menefee, president.

Washington, D. C.—Buildings.—Building permits issued: M. W. Plager for ten dwellings, two-story, 15x37 feet, press-brick and Ohio stone fronts, slate and tin roof, towers, furnace heat, cost \$25,000; Mrs. R. H. Townsend, additions, enlarge building by extending wings, front walls rebuilt with Indiana limestone and brick and steel beam supports introduced, slate roof, cost \$80,000; trustees Glenwood Cemetery, gatehouse, two stories, 23x34 feet, brick and stone, pitch slate roof, cost \$5700; Edward N. Dulin, brick dwelling, two-story, 40x28 feet, press-brick front, flat mansard tin and slate roof, hot-water heat, cost \$4500; E. Weiss, three-story front addition, brick, 20x42 feet, cost \$4800; Ray E. Midgough, three two-story brick dwellings, press-brick fronts, flat tin roof, furnace heat, cost \$7500; Washington Sanitary Improvement Co., twelve brick apartment-houses, two-story, 17x56 feet, press-brick fronts, flat tin roofs, cost \$23,000; Jacob Xander, two two-story brick dwellings, 20x23 feet, press-brick and stone fronts, latrobe heat, flat tin roof, towers, cost \$4500; K. W. Dunn, two two-story brick dwellings, 16x48 feet, press-brick fronts, flat tin roof, hot-air heat, cost \$4400; H. A. Evans, M. I. Weiler, thirty-three two-story brick dwellings, 15 and 16x30 feet, buff-brick fronts, flat tin roofs, latrobe heat, cost \$38,000.

Waynesboro, Va.—Storehouse.—The W. J. Loth Stove Works, W. J. Loth, president, is erecting a two-story wareroom 70x150 feet.

Wilmington, N. C.—Store Building and Warehouse.—I. M. Bear and I. J. Sternberger will erect a three-story brick store building 66x110 feet; front to be of Philadelphia pressed brick, with granite or brownstone trimmings; in the rear will be erected a brick warehouse.

RAILROAD CONSTRUCTION.

Railways.

Alexandria, La.—Messrs. W. B. Miller & Co., one of the subcontractors for the Gulf, Louisiana & Great Northern Railroad, have begun work in the vicinity of Alexandria, grading the right of way. Wheeler & Boody of Philadelphia are general contractors for the road.

Batesville, Ark.—A report is current that engineers are surveying a branch for the Missouri Pacific Railroad from a point on the main line through Marion county, Arkansas, to Carthage, Mo. The road, if built, will be known as the White River branch of the Missouri Pacific Company, and will reach extensive zinc deposits in Marion county. W. B. Doddridge of St. Louis is general manager of the company.

Beardstown, Tenn.—A company is being formed to build a railroad from a point on the Tennessee river to Beardstown, through the phosphate deposits in Perry county.

Bennettsville, S. C.—Surveys have been partly completed for the proposed Marlboro, Marion & Horry Railroad between Bennettsville and Port Harrelson, S. C. The total length is to be eighty-five miles, and it is proposed to build the section between Bennettsville and Marion, a distance of thirty-nine miles, first. A. J. Matheson is president of the company at Blenheim, S. C.

Brownsville, Texas.—The plan to build

another railroad from Brownsville to Point Isabel on the Gulf coast has been revived, and William Anderson has been examining the route between these places. The distance is twenty-five miles.

Camden, S. C.—Surveys have been completed for the proposed branch of the Seaboard Air Line to Columbia.

Centerville, Tenn.—It is reported that surveys are being made for a road to be constructed along what is known as Swan creek to be six miles long. It will form a feeder of the Nashville, Chattanooga & St. Louis Railroad if built. W. B. Southgate of Nashville, Tenn., has been surveying the route.

Charleston, W. Va.—Russell G. Quarrier, one of the promoters of the West Virginia & Southern Railroad Co., informs the Manufacturers' Record that engineers are now making surveys for an extension of the line, and that the company will let contracts as soon as the surveys are completed.

Charleston, W. Va.—It is announced that contracts have been let for grading and mason work along the line of the road to be built from Prince Station through a portion of Fayette county, West Virginia, a distance of thirteen miles. This road will be a branch of the Chesapeake & Ohio, and Messrs. C. D. Langhorne & Co. of Richmond are the contractors.

Chattanooga, Tenn.—It is reported that arrangements have finally been made for the construction of the railroad to Chickamauga Park, and already rails have been purchased. It is understood also that the Chattanooga Rapid Transit Co., which is back of the enterprise, will equip the Sherman Heights line with electric motors at a cost of about \$75,000.

Cleveland, Tenn.—The Southern Railway Co. is making surveys for a branch railway to be about two miles in length to extend to mines near Cleveland.

Columbia, Miss.—The contract for extending the Columbia, Lumberton & Gulf Railroad from Lumberton to Columbia, it is stated, has been let to I. C. Alexander, and work has begun.

Columbia, S. C.—It is now reported that the Seaboard Air Line is considering an extension which will give it a direct route from Columbia to Augusta, Ga., by the way of Aiken, S. C. It is reported that several surveys recently made in this portion of South Carolina and Georgia were in the interest of the Seaboard. John S. Williams at Richmond is president of the Seaboard Air Line.

Columbus, Miss.—It is reported that construction work on the branch of the Mobile & Ohio Railroad, proposed from Columbus to Okolona, Miss., a distance of thirty miles, is to be commenced in June, and that the company will do the work with its own force. E. L. Russell at Mobile, Ala., is president of the company.

Danielsville, Ga.—Business men of Danielsville are endeavoring to form a company to build a road from Danielsville to a connection with the Seaboard Air Line at Comer Station. The distance is about seven miles.

Fort Payne, Ala.—Subscriptions are being received for the stock of the Sand Mountain Railroad, which is being built from Fort Payne through portions of Blount and Walker counties.

Gainesville, Ga.—It is stated that the plan to build another railroad from Gainesville through the gold and marble deposits of Northern Georgia has been decided upon, and that a company has been formed. It is intended to build by the way of Dahlonega, Ga., to connect with the Southern system at some point in Eastern Tennessee.

Hagerstown, Md.—The business men of Hagerstown have been examining the proposed route of the railroad between Hagerstown and Myersville, which is being promoted by Messrs. Douglas Bros. of Millersville, Pa. This line has already been surveyed.

Harrison, Ark.—The plan to build a railroad from Harrison to Eureka Springs has reached a point where the promoting company offers to construct the line if the people of Harrison will secure right of way, give twenty-five acres of land for terminals and a bonus of \$25,000.

Hot Springs, Ark.—The business men of Hot Springs have pledged about \$56,000 of the \$75,000 asked to insure the completion of the Little Rock & Hot Springs Railroad between these towns. This road is being promoted by S. W. Fordyce and others.

Irvine, Ky.—It is reported that the present company owning the Richmond, Nicholasville, Irvine & Beattyville Railroad will extend it as originally intended to Beattyville. Adolph Segal of Philadelphia, it is under-

stood, has finally secured control of the property.

Kinston, N. C.—It is stated that books for subscription to the stock of the proposed railroad between Kinston and Jacksonville will be opened in a few days and a promoting company organized. The road, if built, will be forty miles in length.

Knoxville, Tenn.—It is announced that the Knoxville & Bristol Railroad Co. will probably advertise for bids for constructing the necessary extensions to complete its line from Knoxville to Bristol in a few days. H. M. Alken at Morristown, Tenn., is president of the company.

Lake Providence, La.—L. K. Hyde, vice-president of the New Orleans & Northwestern Railroad Co., writes the Manufacturers' Record that no arrangements have been decided on as yet relative to the reported extension of its road to the Arkansas State line. It is understood to be under consideration.

Little Rock, Ark.—It is announced that most of the grading on the line of the Choctaw & Memphis Railroad has been completed and that track has been laid from a connection with the Choctaw, Oklahoma & Gulf line in Indian Territory to the Arkansas State line, twelve miles. Henry Wood, the general manager, has removed his headquarters to Little Rock.

Mount Airy, Md.—Surveys have been completed for the proposed line of the Baltimore & Ohio from Frederick Junction to avoid the grade near Mount Airy. It is estimated that the track will be twenty-five miles long, and will be used for freight trains running east from Cumberland and Harper's Ferry. P. H. Irwin at Baltimore is chief engineer of the company.

Nashville, Ga.—It is stated that business men of Nashville have made up the necessary subscription to insure the building of the road from Nashville to Sparks, Ga., a distance of thirteen miles, which is being promoted by C. E. Martindale and others.

Nashville, Tenn.—The Tennessee Eastern & Western Railroad Co., recently incorporated, it is understood will succeed to the charter of the Gallatin, Murfreesboro & Sheffield Railroad, granted in 1887 by the State. The proposed road will be about 200 miles long, terminating at Nashville and Memphis. Among those interested is Edward N. Wood of Murfreesboro, Tenn.

New Orleans, La.—An ordinance has been signed allowing the Louisville & Nashville to build tracks along a certain portion of the water front. R. Montfort at Louisville, Ky., is chief engineer of the company.

Newport, Tenn.—The plan to build a railroad from Newport into Sevier county has resulted in the formation of the East Tennessee Lumber, Mining & Railroad Co. of Newport. The terminus of the line is to be at Kastner, Tenn., and the promoting company is capitalized at \$50,000. R. C. Smith and W. B. Robinson of Newport are among those interested.

Norfolk, Va.—It is stated that plans are under way for the construction of a railroad from a connection with one of the lines entering Norfolk to the mouth of the Lynnhaven river, where a coal pier may be constructed, also a breakwater.

Norfolk, Va.—It is reported that a railroad may be constructed from Norfolk to Cape Henry to reach a tract of land which may be converted into a new town. Norfolk parties are reported as interested in the scheme.

Orange, Texas.—E. H. Chaffee has begun work of grading the branch of the Kansas City, Pittsburg & Gulf to Orange, a distance of eleven miles. Mr. Chaffee has secured the contract for the work.

Palmer, W. Va.—It is stated that about seventeen miles of track have been laid upon the line of the Holly River & Addison Railroad, and that about five miles remain to be completed. George A. Heckmer of Palmer is general manager of the company.

Poplar Bluff, Mo.—Lowell L. Palmer and H. D. Williams are interested in the plan to build a railroad to Poplar Bluff to traverse the country between the Black and St. Francis rivers.

Quitman, Ga.—It is understood that the Georgia Northern Railroad Co. is considering the question of extending its line from Quitman to Pavo. C. W. Pidcock at Pidcock, Ga., is general superintendent.

Radford, Va.—Charles Churchill, engineer of the Norfolk & Western Railroad Co., confirms the report in the Manufacturers' Record that this company will build a line about twenty-five miles long from Radford to Floyd Courthouse. It is also making a survey for a branch in Carroll county, Virginia, to Hillsville.

Richmond, Va.—The Seaboard Air Line, it

is reported, has been surveying a route north from a point a few miles north of Richmond to the Potomac river. John Skelton Williams at Richmond is president of the company.

Richmond, Va.—Bids are desired for constructing the mason work for the bridge to be built across the James river by the Richmond, Petersburg & Carolina division of the Seaboard Air Line. P. H. McMichael at Richmond is chief engineer.

Rosenburg, Texas.—It is stated that the Rosenberg, Damond Mound & Gulf Railroad Co. has been negotiating with the Southern Pacific for the purchase of rails to be used on its line, which will be sixty miles in length. William R. Stockwell at Alvin, Texas, is engineer.

St. Augustine, Fla.—The Southeastern Railway Co. has been chartered, with \$75,000 capital, to construct a line from a point on the Indian river in Brevard county to a point in Volusia county. The estimated length is about fifty miles, and the incorporators include J. R. Parrott of Jacksonville, Fla.

Washington, D. C.—It is stated that the commissioners of the District of Columbia have approved the plans recently prepared by the Pennsylvania Railroad Co. for elevated terminals in that city and a new bridge across the Potomac river. The matter will be brought up for approval by Congress at its next session.

Washington, D. C.—George T. Harries has secured a permit for the Washington & Gettysburg Railway Co. to begin work on its terminals within the District of Columbia. This company has surveyed a line between the points mentioned by the way of Westminster, Md.

Street Railways.

Carrollton, Ky.—The Carrollton Electric Railway & Bridge Co. has purchased a franchise for a street railway in Carrollton. Myron I. Barker is president of the company.

Fort Worth, Texas.—The plan to build a railroad line in the eastern section of the city has reached a point where it is understood construction work may begin at an early date. J. E. Martin is one of the principal promoters of the line.

Hampton, Va.—The Newport News & Old Point Railway & Electric Co. has secured a franchise to lay additional tracks through the town of Hampton. F. W. Darling at Hampton is superintendent of the company.

Hannibal, Mo.—Charles D. Haines and others have formed the Hannibal Traction Co., with \$100,000 capital stock, to build a line in the city and suburbs.

Houston, Texas.—The Houston Belt & Magnolia Park Railroad is to be known in the future as the Houston, Oak Lawn & Magnolia Park Railroad. The new owners, it is understood, will rebuild a portion of the line for the use of electric motors. J. B. Frost of Atlanta, Ga., is among those interested in the new company.

Louisville, Ky.—It is understood that the Louisville Railway Co. will secure a franchise to construct a branch of its electric line in the city along Eighth and other streets. T. J. Minary is president of the company.

Maplewood, Mo.—James T. Donovan is interested in the Maplewood & Jefferson Barracks Railroad Co., capitalized at \$100,000, to build an electric line in the suburbs of St. Louis.

Memphis, Tenn.—The Memphis Street Railway Co. has applied to the city authorities for a franchise to extend its line within the city limits.

Paris, Tenn.—The Paris Electric Street Car Co. has elected W. A. Carter, president; W. C. Johnson and C. P. Hudson, vice-presidents, and Y. Caldwell, secretary and treasurer. A franchise is to be secured as soon as possible to construct the line.

Petersburg, Va.—James F. Bradley of Manchester, Va., has secured the contract for constructing the electric railroad in the city recently described in the Manufacturers' Record.

Nails for Every Purpose.—Of the many indispensable articles of the commercial and industrial world nails constitute one of the most important. Of the nail manufacturers of this country one of the largest is the Salem Nail Co. of 279 Pearl street, New York. This company produces a line of nails for every purpose, also making special nails to order when required of it by customers. A brief reference to the company's nails may be made by mentioning galvanized or common, tinned or common, copper nails and tacks, brass nails, lead nails, zinc nails and tacks, yellow metal nails, composition spikes, etc. Price-lists on application.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Boiler.—See "Tanks."

Boiler and Engine.—W. A. Strom, Edgefield, S. C., wants prices on 10-horse-power engine and boiler complete, on skids, center-crank, delivered.

Boilers and Engine.—See "Saw Mills."

Bottle-washer.—Pekin Tea & Coffee Co., 1729-1731 Second avenue and Eighteenth street, Birmingham, Ala., wants bottle-washer.

Brewery.—Crockery City Brewing Co., East Liverpool, Ohio, wants to purchase brewing machinery complete.

Bridges.—Parties desiring to contract for the erection of two large steel bridges will please correspond with S. A. Souther, superintendent of the Jalapa Railroad & Power Co., P. O. Box 91, Jalapa, E. V., Republic of Mexico.

Brick Machinery.—Greer Machinery Co., Knoxville, Tenn., is in the market for a second-hand soft-mud brick machine (dealers' prices).

Broom Machinery.—William S. Irvine, Newcastle street, Brunswick, Ga., wants to correspond with manufacturers of broom machinery.

Capping Machine.—Pekin Tea & Coffee Co., 1729-1731 Second avenue and Eighteenth street, Birmingham, Ala., wants capping machine.

Cork Machinery.—Burhorn & Granger, 95 and 97 Liberty street, New York, N. Y., want catalogues of cork-manufacturing machinery.

Corn Sheller.—See "Rice Machinery."

Dredging.—U. S. Engineer Office, Milwaukee, Wis.—Sealed proposals for dredging at Menominee river, Oconto, Green Bay, Two Rivers and Milwaukee harbors will be received until May 17; information furnished on application; J. G. Warren, captain, engineers.

Drying Machinery.—See "Mattress Machinery."

Electrical.—See "Railway Equipment."

Electrical Machinery.—See "Heating Apparatus."

Electrical Machinery.—Wythe Lead & Zinc Mine Co., John C. Raper, president, Austinville, Va., wants dynamo of 100 horse-power and turbine water wheels for propelling it.

Electric Lighting.—The city of Abbeville, S. C., will open proposals June 15 for supplying it with electric lighting for three or more years. Proposals to be based on forty or more closed arc lights of 1200 candle-power. Address Dr. G. A. Newffer, chairman, for information.

Elevators.—Winston & Co., Newport News, Va., will receive sealed proposals until June 3 for elevators for four-story building 90x100 feet.

Elevators.—Richmond Cedar Works, Richmond, Va., wants two freight elevators, one of two tons and one of four tons.

Engine.—See "Woodworking Machinery."

Engine.—P. M. Wilkerson Drug Co., Marion, Ala., wants a second-hand gasoline or steam engine.

Excelsior.—W. F. Edwards, Hendersonville, N. C., wants addresses of excelsior manufacturers.

Forgings.—The Hood Machine Co., Birmingham, Ala., wants the addresses of manufacturers of drop forgings; will also need crank.

Foundry Supplies.—Fairview Manufacturing Co., Corning, Ill., is in the market for molders and foundry supplies.

Furniture.—The vestry of St. Paul's Episcopal Church, Newport News, Va., will receive proposals until June 1 for furniture for church 60x97 feet.

Gasoline Engine.—See "Engine."

Gasoline Engine.—See "Ironworking Machinery."

Heating Apparatus.—D. W. and Edgar Baum, Mt. Sterling, Ky., want to correspond with manufacturers of heating, plumbing and electrical goods for 25-room hotel.

Heating Apparatus.—The vestry of St. Paul's Episcopal Church, Newport News, Va., will receive proposals until June 1 for indirect hot-air-heating system for church 60x97 feet. Plans may be seen at office of P. Thornton Marye, architect.

Heating Apparatus.—J. G. Anderson, Rock Hill, S. C., wants information regarding heating apparatus for residence (hot-water and steam being considered).

Heating Apparatus.—Winston & Co., Newport News, Va., will receive proposals until June 3 for steam-heating apparatus for four-story building 90x100 feet. Plans on file at office of P. Thornton and E. A. Marye, architects.

Hydraulic Machinery.—See "Oil-mill Machinery."

Ice Machinery.—C. W. Jamison, Williams-town, W. Va., wants to purchase a 10-ton ice plant.

Ice Machinery.—P. M. Wilkerson Drug Co., Marion, Ala., wants a small second-hand ice plant.

Incubator.—E. K. Bryan, Jr., Dublin, Ga., wants to purchase a small incubator.

Iron Fence.—John F. Lone, secretary, Gastonia, N. C., wants bids on iron fence for enclosing cemetery.

Ironworking Machinery.—Greer Machinery Co., Knoxville, Tenn., wants one 30x36-inch swing, two and one-half to three and one-half feet between centers, pulley lathe, one 14 to 16-inch screw-cutting, back-geared iron planer three to four-foot bed, one five-horse-power gasoline engine.

Machine Tools.—See "Forgings."

Mattress Machinery.—William H. Kemp, Easton, Md., wants full particulars regarding the preparation of corn husk for mattresses.

Mattress Machinery.—Robert L. Kemp, Easton, Md., wants information regarding corn-husk shredders; also regarding machinery for drying green corn husks from a canning factory preparatory to being shredded.

Mineral Wool.—S. F. Rixey, Catalpa, Va., wants to purchase about 100 cubic feet of mineral wool to ratproof a building.

Molding Knives.—Dozier & Co., Athens, Ga., want addresses of firms who manufacture hollow-ground molding knives which will retain their original shape on edge by grinding at same level from plain face.

Oil-mill Machinery.—Fairfield Oil & Fertilizer Co., Winnsboro, S. C., wants to buy a second-hand 15-box hydraulic press with 12-inch ram and 11¼-inch plates.

Paper Bags.—See "Wrapping Paper."

Pier Work.—U. S. Engineer Office, 37 Park street, Grand Rapids, Mich.—Sealed proposals for repairing government pier at St. Joseph, Mich., will be received until May 19; information furnished on application; Chester Harding, captain, engineers.

Piping.—Central Phosphate Co., Mount Pleasant, Tenn., requires 186 wrought-iron pipes without sockets for hot air, five feet long, inside diameter four inches, one-quarter inch to three-eighths inch thick.

Plumbing.—See "Heating Apparatus."

Pulp Machinery.—Arthur Whitman, Orangeburg, S. C., wants names and addresses of manufacturers of pulp machinery for making pulp to be used in the manufacture of paper from wood; also wants the cost of a small pulp plant.

Pumping Engine.—The board of water commissioners, City Building, Allentown, Pa., will receive sealed proposals until May 29 for one 8,000-gallon pumping engine. Bidders will be expected to examine location, submit drawings and specifications showing engine in position, also giving boiler capacity required and specific information as to foundation. Each bid must be accompanied by check for \$1000 as guarantee. Usual rights reserved.

Railway Equipment.—"W. J. C." care of Manufacturers' Record, Baltimore, Md., wants prices, etc., on steam shovel and thirty flat cars.

Railway Equipment.—W. J. Dillard, Florence, Ala., wants quotations on new and second-hand electrical car, also motor to be attached to another car, trolley line, for one and one-quarter miles, and 16 to 25-pound rails for one and one-quarter miles.

Rice Machinery.—J. W. Henderson, Luan-na, Fla., will probably purchase rice machinery and corn shellers.

Roofing.—J. A. Jones, De Funiak Springs, Fla., wants iron roofing.

Saw Mill.—R. M. Boazman, Maricoot, Ala.,

is in the market for a No. 2 saw mill and traction engine.

Saw-mill Machinery.—E. W. Frost, Texarkana, Ark., wants to purchase saw-mill outfit.

Saw Mills.—Eastern Kentucky Timber & Lumber Co., R. M. Scobee, secretary, Winchester, Ky., is in the market for double iron frame circular portable saw mills, 25-horse-power engines and boilers on skids.

Skylights.—Winston & Co., Newport News, Va., will receive proposals until June 3 for skylights for four-story building 90x100 feet. Plans on file at office of P. Thornton and E. A. Marye, architects.

Spraying Apparatus.—G. B. Robertson, superintendent, Whaleyville, Va., wants addresses of manufacturers of spraying apparatus for paint or whitewash.

Sprinkler System.—The Roswell Manufacturing Co., Roswell, Ga., wants automatic sprinkler of 1000 heads for cotton mill.

Stucco-work Machinery.—Fort Dodge Plaster Co., Fort Dodge, Iowa, will purchase special make of machinery to the amount of \$25,000 for the manufacture of stucco work.

Suspender Webbing.—W. D. Overby, Danville, Va., wants the addresses of manufacturers of suspender webbing.

Tanks.—Pekin Tea & Coffee Co., 1729 and 1731 Second avenue and Eighteenth street, Birmingham, Ala., will be in the market October 1 for three medium-size candy boilers.

Telephone Equipment.—Fluvanna Telephone & Telegraph Co., L. O. Haden, secretary, Palmyra, Va., wants to purchase telephone equipment.

Telephone Supplies.—Exchange Telephone Co., B. J. Farrell, secretary, Littleton, W. Va., will need telephone boxes, poles, cross-arms and insulator pins, wire, switchboard, etc.

Telephone System.—Exchange Telephone Co., B. J. Farrell, secretary, Littleton, W. Va., may want bids on fifty to seventy-five miles of line.

Textile Machinery.—J. D. Rutledge, Hagerstown, Md., wants information relative to the machinery, etc., necessary for the manufacture of cotton twine, cordage, etc.

Textile Machinery.—Royal Dennis, Laredo, Texas, wants to purchase machinery

for the manufacture of feed sacks out of litle (the fiber of the century plant).

Textile Machinery.—Couch Bros. Manufacturing Co., A. G. Couch, secretary and manager, Senola, Ga., wants prices on a machine for making back-band webbing on the circular order or like a seamless salt sack and five inches wide when pressed flat.

Traction Engine.—See "Saw Mill."

Twine.—See "Wrapping Paper."

Umbrella Machinery.—J. M. Ross, Dayton, Tenn., wants to buy machinery for the manufacture of umbrellas.

Water Wheels.—See "Electrical Machinery."

Water Works.—Date for opening bids on construction of water works at Gaffney, S. C., has been postponed to May 31. Address A. N. Wood, chairman of board.

Water Works.—The city of Sanford, N. C., wants estimates on complete water-works system; circular, giving list of machinery and supplies, can be obtained on application. Address W. J. Edwards, mayor.

Windmills.—E. H. Vordenbaumen, Lafayette, La., is in the market for a supply of windmills.

Wire Rope.—Greer Machinery Co., Knoxville, Tenn., is in the market for 4000 feet of three-quarter-inch second-hand wire rope.

Woodworking Machinery.—Arthur Whittman, Orangeburg, S. C., wants addresses of manufacturers of barrel-hoop machinery.

Woodworking Machinery.—Stanley Manufacturing Co., Stanley, Wis., wants to purchase rotary edger and trimmer and engine.

Woodworking Machinery.—Fellows Shaper Co., E. R. Fellows, manager, Springfield, Vt., will buy shaper.

Woodworking Machinery.—Alabama Foundry and Machine Works, New Decatur, Ala., wants to buy a wood surfer and matcher.

Woodworking Machinery.—Huntsville Furniture & Lumber Co., Huntsville, Ala., wants to purchase machinery for the manufacture of furniture.

Woodworking Machinery.—M. J. Harrig, Richmond, Va., wants prices on single-drum sander, also three-drum sander.

Wrapping Paper, etc.—C. W. Wieckling, Jr., Atlanta, Ga., wants addresses of manufacturers of wrapping paper, paper bags and twine.

GENERAL INDUSTRIAL NEWS.

The Park Steel Co.'s addition to its works at Pittsburg, Pa., includes a new crucible furnace.

Messrs. S. O. Bigney & Co. of Providence, R. I., it is reported, intend erecting a factory at Attleboro, Mass.

The Lukens Iron & Steel Co. at Coatesville, Pa., expects to have its plant partly in operation by September 1.

The Canton Roll & Machine Co., which is building a plant at Canton, Ohio, is letting contracts for its equipment.

The Battle Creek Steam Pump Co. of Battle Creek, Mich., has let contracts for an addition to its present plant.

It is understood that the W. Dewees Wood Co. of McKeesport, Pa., may erect two sheet mills, also a cold rolling mill.

The Lorain Shale Brick Co. of Lorain, Ohio, has purchased the plant of the Lorain Brick Co. and will use it for its plant.

The enlargement being made to the works of the Chase Pump Co. of Columbus, Ohio, will increase its output about one-third.

E. A. Davis of West Tilbury, Mass., is interested in the Austin Organ Co., recently incorporated with \$150,000 capital stock.

The Penn Iron & Coal Co. has determined to add a stove to its furnaces at Canal Dover, Ohio, which will be 17x75 feet in size.

The Camden Curtain Co. of Camden, N. J., has decided to add a building four stories high to its plant, and contracts have been let.

The Le Roy Plow Co. has recently been formed at Le Roy, N. Y., with \$50,000 capital stock, by Butler Ward of Le Roy and others.

The McCrary Ice Machine Co. will manufacture this apparatus at Maywood, N. J. Robert H. Richards is a director of the company.

The Valley Forge Cutlery Co., recently incorporated in New Jersey, will manufacture cutlery at 28 South Sixth street, Newark, N. J.

There is a possibility that the city of Easton, Pa., may construct a water-works system. The mayor will give further information.

The Rogers Screw Co., recently incorporated at Providence, R. I., is capitalized at \$250,000. Henry R. Rogers is a director of the company.

The Seamless Rubber Co., it is announced, will build a factory at New Haven, Conn., which will cost about \$10,000. Contracts have been let.

It is reported that Charles A. Stickney has prepared plans for the erection of a factory for manufacturing gasoline engines at St. Paul, Minn.

Messrs. Baugher, Kurtz & Co. of York, Pa., are about to let contracts for the proposed addition to their plant, which will be 125 feet square.

J. E. Sawyer of Melrose, Mass., is a director in a company recently formed to manufacture patent gas burners and capitalized at \$500,000.

It is announced that James Levy & Bros. have decided to double the capacity of their distillery, located near Madison, Ind. The work will cost \$125,000.

William E. Hidden of Newark, N. J., is a director in the Cox Electric Rail Co., capitalized at \$1,000,000, and recently incorporated in West Virginia.

The Greenfield Machine Co., recently formed at Greenfield, Mass., will manufacture milling machinery. H. E. Goodell is president of the company.

The Fay & Egan Co. of Cincinnati, Ohio, has let contracts for an extensive addition to its present works, made necessary by the increase in its business.

Elmer E. Fox of Massillon, Ohio, may be addressed relative to the Washington Lighting Co., which intends constructing a plant. It is stated, at Massillon.

The Warren Reduction Co. of Providence, R. I., has been examining sites in the suburbs of New Haven, Conn., for a plant for manufacturing compounds from fat.

Another company is to be formed at Hartford, Conn., to manufacture motor carriages, to be capitalized at \$100,000. It is termed the Director Motor & Wagon Co.

The Magnetic Piano Co. is a recent New Jersey incorporation located at 161 Washington street, Newark. It is capitalized at

\$500,000. Jay Ten Eyck is one of the directors.

The plant of the Pittsburgh Machine Co. to be located in Allegheny, Pa., will include an equipment of lathes, planers and other tools which will be made by the Baird Machine Co.

The Chippewa Sand & Stone Co. of Massillon, Ohio, it is understood, will engage in quarrying stone. It is capitalized at \$125,000. T. O. Humberger at Massillon may be addressed.

The Universal Woodenware Co. has been organized at Harrisville, N. Y., and capitalized at \$12,000 to manufacture this specialty. Frank P. Clement of Rutland, Vt., is one of the directors.

The Muskee Paint Co. will be located at the town of this name in New Jersey, and will manufacture paints and varnishes with \$100,000 capital stock. Joseph Daily may be addressed.

The Fort Dodge Plaster Co. of Fort Dodge, Iowa, will erect buildings for manufacturing stucco works, and has let several contracts. It will require about \$25,000 worth of machinery.

The Atlantic Brass Co., recently incorporated in New Jersey, it is understood, intends manufacturing patent bearings for car axles. Robert S. Green of Elizabeth, N. J., may be addressed.

Messrs. Scheeler's Sons of Buffalo, N. Y., have let contracts for a building 44x100 feet in dimensions and four stories high, which will be used for wire and metal work, and have let contracts for machinery.

The Crockery City Brewing Co. writes the Manufacturers' Record that it will erect a brewery at East Liverpool, Ohio. Contracts have not been let, and a complete outfit of brewing machinery will be needed.

The Indianapolis Drop Forging Co. of Indianapolis, Ind., may be obliged to enlarge its works on account of the increase in business. It is reported that the company has been examining sites for another plant.

The American Pulley Co. of Philadelphia, it is announced, has determined to build its factory at Nicetown, Pa. It will install equipment for manufacturing pulleys as large as six and seven feet in diameter.

The Lafin & Rand Powder Co. of Chicago confirms the report in the Manufacturers' Record that it will erect an additional powder mill. Considerable of the machinery has already been purchased.

The Merritt Air Brake Co., recently incorporated in West Virginia, will manufacture electric air brakes, and is capitalized at \$1,000,000. Waldo G. Morse, 10 Wall street, New York, is attorney for the company.

The Fairview Manufacturing Co. at Corn-ing, Ill., advises the Manufacturers' Record that it will erect four buildings and will utilize about fifty horse-power. The company is now in the market for foundry supplies.

Architects are invited to furnish plans for the new custom-house at New York city, which will be six stories high, and it is calculated will cost over \$3,000,000. The supervising architect at Washington may be addressed.

The Olds Motor Works is a company which will have its plant at Detroit, Mich., and which is capitalized at \$200,000. It will manufacture engines as well as other machinery. R. E. Olds of Lansing, Mich., may be addressed.

It is reported that a Philadelphia syndicate has purchased the Bellefonte Iron and Nail Works at Bellefonte, Pa., and will operate them at once. Justice Cox, Jr., 552 Bullitt Building, Philadelphia, may be able to give further details.

The Leicester & Continental Mills Co. of Germantown, Philadelphia, Pa., has let contracts to William Steele & Sons of Philadelphia for its additions, which include a four-story mill 60x200 feet in size, also a dye and dry room 40x100 feet.

A dispatch from Middleburg, Pa., is to the effect that a shoe factory is to be built in that town which will give employment to about 100 men, and that capital has been secured for a gun factory. The mayor can probably give further information.

According to a dispatch from Pittsburg, Pa., the National Steel Co., if it succeeds in securing the necessary property at Sharon, will have the largest open-hearth steel works in the world. It intends building an addition to its present works at Sharon.

It is understood that the improvements to be made to the plant of the Diamond State Iron Co. will represent a cost of nearly \$2,000,000. Considerable property has been purchased adjacent to the works for additional buildings, etc. The Diamond State

Iron Co. has transferred its interest to the Diamond State Steel Co. of Wilmington, Del.

Messrs. Crawley & Johnston of Cincinnati, Ohio, advise the Manufacturers' Record that they will construct a four-story building in connection with their present business. This firm makes a specialty of machinery, leather belting, rubber goods and factory supplies generally.

According to a dispatch from Pittsburg, Pa., it is calculated that fully six new blast furnaces will be erected in Western Pennsylvania within the next year. They will average from 300 to 500 tons daily output, and it is calculated that investment in them will aggregate nearly \$4,000,000.

The report that the Cramp Ship & Engine Building Co. at Philadelphia is preparing to purchase eight acres of land for an addition to its shipyard in Philadelphia has been practically confirmed. The site includes the plant of the Hillman Shipbuilding Co., and it is understood the addition will be devoted to the enlargement of the Cramp shipyard.

The Electrolytic Chemical Co., which has been incorporated in South Dakota, it is understood, will manufacture chemicals by the process invented by Prof. T. L. Roberts of the Illinois University. Among its products will be caustic soda and bleaching powder. William H. Day of New York, vice-president of the Chemical Battery & Power Co., is interested in the new company.

The Berkshire Cotton Co. of Adams, Mass., has let contracts for additions to its plant which will consist of a spinning and weaving mill, a cloth room, also a power-house. The spinning mill will be 125x520 feet and the weaving mill 225x500 feet in dimensions. The equipment, consisting of 100,000 spindles and 2400 looms, has been ordered. Edward W. Gibbs is president of the company.

The Gruson Iron Works, recently organized in New York city, consists largely of Buffalo parties. It is understood it will manufacture what is known as the Gruson armor for fortifications, also castings for machinery. P. H. Griffin of Buffalo is president; C. W. Barnum of Lime Rock, Conn., vice-president, and T. Guilford Smith of Buffalo, treasurer. It is understood the plant will be located on the water front somewhere in the vicinity of New York city.

It is stated that the Long Island Railroad Co. is back of the plan to build the tunnel under the East river to connect Brooklyn and New York. A special company, to be termed the Brooklyn, New York & Jersey City Terminal Co., is to be formed to take charge of the project, and it is understood that plans have been completed and operations will begin in the near future. Among the projectors is William H. Baldwin, president of the Long Island Railroad Co. at Brooklyn, and formerly vice-president of the Southern Railway Co.

The Cincinnati Milling Machine Co. advises the Manufacturers' Record that the addition to its present plant will be three stories high and 40x120 feet in dimensions. Contracts will be let as soon as plans are completed. It has purchased the necessary property for the addition. The company has also decided to have a building for the use of employees, which will include a dining-room and kitchen, shower baths and reading-room. This is a departure in the usual plans of manufacturing companies, and will doubtless be highly appreciated by its hands. The officers of the company are Frederick Holz, president; G. A. Mayer, vice-president, and Fred A. Geyer, secretary and treasurer.

TRADE NOTES.

Phosphate Lands for Sale.—E. Willis of Charleston, S. C., advertises for sale valuable rock phosphate lands in his State.

Wants Location for Flour Mill.—"Flouring Mill" advertises in this issue a desire to change location of flour mill. Correspondence from interested parties is invited.

Fire Engines for Sale.—The fire commissioners of Baltimore, Md., are offering for sale three old steam fire engines. Write Stanley Baker, secretary, for particulars.

Wants Woodworking Machinery.—A Southerner wants to exchange milling machinery complete for woodworking machinery. (See advertisement of "Machinery.")

Manufacturing Site to Lease.—The offer to lease a most desirable manufacturing site in the South is made in this issue by advertisement. The site is located on three railroads and a river, and includes large building and power adjacent to timber lands. A woodworking plant would be very suitable

for the site. For information address "Business," care of this publication. (See advertisement.)

Improvement in Umbrella Frames.—Dr. W. G. McGee of Anderson, S. C., has invented a unique device consisting of an improvement in umbrella frames. Briefly, it may be said that the device, by means of a ball and socket arrangement, prevents any possibility of a rib or brace being displaced while in use. The invention does away with the troublesome wire that breaks so easily and allows the rib to go through the cover. It is probable that Dr. McGee would consider offers for the use of this device from manufacturers.

Messrs. A. A. Talmage & Co.—This New York firm has been succeeded by the Lloyd-Talmage Co., Henry A. Lloyd, president; M. R. Talmage, vice-president; A. A. Talmage, treasurer-manager, and W. J. Schaefer, secretary-superintendent of supply department. The new company will do a general contracting business and deal in hardware, machinery and supplies for railroads, steamships, mines, mills, machinists, engineers, contractors, etc., at 33 Barclay street and 38 Park Row. General offices at 29 Broadway, New York city.

Wolf Company's Gyrator Flour Mills.—The Wolf Company of Chambersburg, Pa., continues to file many orders for flour mills on its gyrator system. Recent orders included a complete 60-barrel mill in North Carolina, remodeling 50-barrel mill in Virginia, remodeling 50-barrel mill in Tennessee, remodeling 50-barrel mill in Pennsylvania mill to gyrator system, remodeling 200-barrel mill in Iowa to gyrator system, displacing machines now in use in Pennsylvania mill with gyrators, new 75-barrel mill in Iowa and new 50-barrel mill in Ohio.

Superior Water-Power Facilities.—There has been undertaken in South Carolina the utilization of the water-power that is possible of development in the Wateree canal, near Camden, S. C. The engineer's report on this property claims that over 14,000 horse-power can be readily developed. Further, it is claimed that all the conditions most to be desired for a successful power are available, such as good drainage, area, extensive forests, good volume of flow at low-water mark, etc. The property is offered for sale by Mr. S. Logan Lang of Camden, S. C., and he will furnish any information that is requested, together with blue-print plan of development as outlined. (See advertisement.)

Some Large Cranes.—Orders for the electric traveling cranes of the Case Manufacturing Co. of Columbus, Ohio, continue to be filed daily. A number of good contracts for large cranes have been received lately by the Case Company and many filled. The cranes were shipped to all parts of the United States. Recent orders included one 60-ton crane, one 30-ton crane, one 15-ton crane (all electric traveling), one 10-ton crane, two six-ton cranes and 3000-pound crane (all hand-power), 25-ton electric traveling crane, four other 25-ton electric traveling cranes, two 15-ton electric traveling cranes, one 10-ton electric traveling crane, two 75-ton electric traveling cranes, one 10-ton hand-power traveling crane, one 4000-pound electric traveling crane and a 3000-pound jib crane.

Jackets for Locomotives.—A pertinent point bearing on the first-cost idea of jackets for locomotives is the fact that there is no locomotive builder in this country who does not, in the absence of instructions to the contrary, place Wood's patent planished iron on every locomotive built, so the manufacturers of that material state. Further, they claim that it has never been demonstrated to the satisfaction of any real student that the first cost of painted jackets, leaving aside the question of constant renewal and the matter of appearance, is lower than that of patent planished iron. One would hardly lack temerity were he to assert that locomotive builders are inferior to any railroad men as figures on the question of relative cost. And the fact that there seems to be no question in the minds of locomotive builders carries its own conclusions.

Cotton Mill and Water-Power for Sale.—This property consists of three falls on the Soque river, in Habersham county, Georgia, with 600 acres of land, on which is located two factories, one for the manufacture of woolen cloth, with twelve 48-inch cards, and one for spinning cotton, with 2500 spindles, with a full complement of residences, operatives' houses, storehouse, warerooms, etc. The combined water-power is equal to 2500 horse-power, the labor native, easily controlled and well satisfied. This is one of the

most valuable water-powers in the South, being most easily harnessed and furnishing an abundance of water in the summer, and not affected by the floods through the winter. Railroad facilities within three miles; property belonging to an estate. Will be sold very cheap. For full particulars address T. D. Meador, president Porter Manufacturing Co., Atlanta, Ga.

Anti-Friction Metal.—There is reported an active demand for "Iridium" anti-friction metal. This is a peculiar alloy of the Babbitt metal class which is very much like the famous Parsons English mixture which has been used in heavy machinery and steamship work for a great number of years. After extensive experiments and tests this mixture was put on the market a number of years ago, and time has only given full proof of its merits. It is a coarse-grained, very white, light and extremely tough material which is equal to brasses in its endurance and anti-frictional qualities, but which can be much more easily used, as it can be melted in the ladle and poured into boxes instead of being cast and filed to fit as is necessary with brasses. All users of this material will find it to their interest to communicate with the manufacturers, Messrs. Merchant & Co., Inc., of Philadelphia.

Air Compressors.—The greatly-extended use of compressed-air appliances has created a positive demand for efficiency and maximum economy in the design and construction of air-compressing machinery, with a rapid tendency toward the survival of the fittest. The fundamental points of a good air compressor are simplicity of design, economy in consumption of power (which naturally includes efficiency in air compression), accessibility and durability of parts and perfect automatic regulation. Consideration and comparisons should be made with these features primarily in mind. First cost is, of course, important, but the compressor that costs the least is not the cheapest, for greater power consumption and frequent repairs and renewals often amount to more than the difference in price after a short period of operation. The foregoing remarks present briefly and concisely upon what is based the claims of superiority made by the Clayton Air Compressor Works of New York (office in Havemeyer Building, 26 Cortlandt street).

Cochrane Separators for Manila.—The United States Navy Department has ordered three Cochrane separators, which had to be forwarded upon very short notice, but by pushing work upon them delivery was made. One of the separators was to be placed upon each of the three Spanish gunboats, the Isla de Cuba, Isla de Luzon and the Don Juan de Austria, which were sunk during the battle of Manila, have been raised by our government and are being remodeled for service in the Philippines. Cochrane separators several years ago were thoroughly tested by an experimental board of the United States Navy at the Brooklyn Navy Yard, during which tests such high efficiency was demonstrated that Chief Engineer Melville incorporated a report of the investigation in his annual message to the Navy Department, and since that time numerous orders were given for these separators for use on battleships, cruisers, torpedo-boats, etc. During the late war with Spain several rush orders were filled for these separators, which were installed in the vessels which were purchased by the government at that time for auxiliary service. The Harrison Safety Boiler Works of Germantown Junction, Philadelphia, Pa., manufactures these devices.

Stone-Crushing and Screening Plants, etc. A new departure in the business of Messrs. A. J. Beckley & Co. of Garwood, N. J., has been introduced recently. The firm has completed arrangements that will enable it to supply towns, cities, villages and contractors complete stone-crushing and screening plants operated until accepted. Drawings and estimates to suit all conditions will be furnished upon request, and when convenient the firm always examines the ground before making prices. Messrs. Beckley & Co. have for years been manufacturers of sheet metal of all kinds for all uses, and with their complete plant and accessory arrangements that have been closed contracts on the new line of machinery can be filled reliably and quickly. The Beckley & Co. gold-washing and amalgamating machinery is also meeting with considerable success, and only recently a letter of strong commendation was received from Honduras, Central America. The letter speaks highly of the satisfactory results obtained in gold mines of the country mentioned with the machine referred to, and the writer expects that they will find a great market in Hon-

duras, their lightness to be an important factor in securing this. Where hand labor is hardly obtainable and transportation is difficult the Beckley gold-washing and amalgamating machinery is par excellence.

Semi-Bronze Packing.—Semi-bronze packing is composed of the best materials obtainable in the market. The core, which is the foundation, is a lubricator reservoir, and is composed of loosely-spun asbestos, thoroughly saturated with high-grade cylinder oil, pressed into the desired shape and coated with graphite lubricator. The covering is of alternate strands of hemp and asbestos, all loosely spun, and each braided over with an open network of very fine semi-bronze wire. All of the strands are very loose and fluffy, so that they readily soak up oil and hold it, and the braiding of the wire, being quite open, permits the oil to flow readily from the fiber and carry along with it the graphite to the piston rod when heated. Semi-bronze packing has passed the experimental stage, and its value has been fully proved by actual practice in hard service; has given entire satisfaction where used, both as to its lasting qualities and to the bright appearance of the piston rods. The packing is made in all regular sizes from one-quarter to one and one-half inches, and is put up in neat and attractive form, is cut into twelve-foot lengths and each length in a separate box, labeled. The Charleston Metallic Packing Co. of Pritchard street, Charleston, S. C., manufactures semi-bronze packing, and the latter is handled by the principal dealers of the large cities. The company's factory has been enlarged recently, owing to the demand for this packing.

Cochrane Feed-Water Heaters and Purifiers.—These heaters and purifiers continue to be urgently demanded. Recent orders were: From Avonmore, Pa., 1250 horse-power; Chicago, Ill., 150 horse-power; Chicago, Ill., one 3000 horse-power and one 2000 horse-power; Dayton, Ohio, 600 horse-power; Honeye Falls, N. Y., 350 horse-power; Cambridge, Mass., 500 horse-power, special; Philadelphia, Pa., 150 horse-power, special; Sayre, Pa., 850 horse-power; Coplay, Pa., 150 horse-power; Altoona (Pa.) Silk Mill, 1000 horse-power; Madison, Wis., 200 horse-power, etc. Recent sales of the Cochrane separators were: At Springfield, Mass., four-inch; Chicago, Ill., two 10-inch, two 20-inch and one 14-inch vacuum oil, and one seven-inch; Waterbury, Conn., four-inch; Sharon, Pa., two 10-inch; Cambridge, Mass., two 10-inch, one eight-inch and one seven-inch; Fall River, Mass., one each two-inch and four-inch; Boston, Mass., three-and-one-half-inch; Boston, Mass., four-inch; Boston, Mass., three-and-one-half-inch; New York, N. Y., six-inch oil-ammonia; Erie, Pa., 10-inch; Everett, Mass., five-inch; Youngstown, Ohio, two eight-inch, two six-inch, three five-inch and one 12-inch; S. Brewer, Maine, eight-inch; Jersey City, N. J., two two-inch; McKeesport, Pa., four-inch; Chicago, Ill., four-inch; Chicago, Ill., five-inch; Northampton, Pa., five-inch horizontal; Highwood, Ill., one each eight-inch, 12-inch and 16-inch; S. Manchester, Conn., 10-inch, etc. Many of the orders were both heaters and purifiers and were awarded by the same companies. The Harrison Safety Boiler Works of Philadelphia, Pa., manufactures the Cochrane devices.

Reconstructed Granite; A Novel Material. There is a third-rail electric railway system at Coney Island, one of the important features of which is the insulating blocks made of reconstructed granite, used between the rail sections. This reconstructed granite is a novel material, and a description of it is of some interest. The material is exactly what its name implies, and consists of choice Maine granite, pulverized, molded into form and fused together at a temperature of 3000 deg. F. It differs from the natural stone, of which it is composed, in several very important respects, viz.: (1.) In being absolutely fireproof, as it can be heated red hot and thrown into cold water without being in the slightest degree injured or affected thereby. (2.) It resists the action of every known solvent, acids and alkalis of all kinds, except hydro-fluoric acid, and is only superficially affected by that. (3.) It is absolutely frostproof, having been tested in liquefied air at an estimated temperature of 350 deg. below zero not only without injury, but was as strong while frozen as before, and not at all brittle, in this respect differing from all other materials tested in this way. As it is a well-known fact that all natural rocks are disintegrated by extreme cold, and as 80 deg. to 90 deg. below zero is the coldest temperature known upon earth, the test is a severe one. (4.) Natural granite not only contains a considerable percentage of moisture, but

has a constant tendency to absorb more when exposed to dampness, whereas this material contains no moisture whatever, and being vitrified clear through (when prepared for electrical insulation), cannot absorb any. (5.) Its crushing strength, as shown by tests by the United States government at the Watertown Arsenal, ranged as high as 14,560 pounds per cubic inch, which is far above the average strength of the natural stone. Its tensile strength is from 480 to 500 pounds per square inch. Its great strength, its uniformity throughout, its non-absorbent properties and its susceptibility to being rapidly and economically molded into all ordinary shapes at a comparatively low cost would seem to make it a valuable insulating material, especially for railway work, when it would be constantly exposed to the weather, and frequently buried under ground. For these reasons it is rapidly growing in favor upon electric railways, especially for third-rail insulation. A recent test at Niagara Falls showed that it required 56,600 volts to penetrate about one-half inch of this material with a merely nominal absorption after soaking the fragments for many hours. Many other tests equally satisfactory have been made by eminent electricians. Reconstructed granite is manufactured at Norristown, Pa., by the Reconstructed Granite Co. of New York; Wm. Courtenay, president (P. O. address Box 2905).

TRADE LITERATURE.

"Graphite."—The May issue of "Graphite" contains much material of interest to present and prospective users of graphite. This publication is issued by the Joseph Dixon Crucible Co. of Jersey City, N. J., in the interests of its graphite productions, and for the purpose of establishing a better understanding in regard to the different forms of graphite and their respective uses.

Iron, Wire, Steel, Brass and Electro-Plated Work.—The pocket edition of the catalogue of the J. E. Bolles Iron and Wire Works of Detroit, Mich., contains illustrations of many of the company's numerous designs. As designer and manufacturer of iron, wire, steel, brass and electro-plated work the Bolles Company has attained a reputation highly thought of wherever such product is used. Copy of booklet on application.

Electrical Novelties.—The latest inventions in electrical novelties contain many of use in everyday business and domestic life. These novelties are found useful, practical, economical and ornamental, a catalogue of them issued by the American Electrical Novelty & Manufacturing Co. being of much interest. Illustrated descriptions of the company's product may be found in the catalogue just issued, copies of which may be obtained by addressing the office at 255 Centre street, New York, N. Y.

Nothing but America.—A patriotic postal card issued by the S. Obermayer Co. of Cincinnati conveys the information that the company manufactures "everything you need in your foundry." Notwithstanding the great rush in the iron industry, this company is prepared to fill all orders promptly. The Obermayer postal card is embellished on the address side with appropriate illustrations of our warships and their successful commanders, also with other pertinent patriotic insignia.

Carbonizing Coating.—A combination of materials so combined as to give lasting protection with the least possible cost is what "Carbonizing Coating" is. It is not a paint or compound, but merely a modern chemical combination of old-fashioned materials suited for modern wants, and the thousands of gallons of it used yearly at home and abroad attest to its superior value for the purposes it aims at. The Goheen Manufacturing Co. of Canton, Ohio, the manufacturer of "Carbonizing Coating," has just issued a new pamphlet concerning it. Reproductions are shown from photos of structures using the material on their ironwork. The demand for '90 has far eclipsed all former years, and the company is now enlarging its factory to enable it to keep up with orders.

Air Compressors.—Catalogue No. 10, just received from the press, is one of the most complete works of its kind, and embodies the very latest and highest types of air-compressing machinery. It contains illustrations and lists of sizes of the standard patterns; also illustrative descriptions of the Clayton type compressor. Among the other contents will be found valuable data and tables of compressed-air transmission and capacity lost by air compressors in operation at various altitudes. Air receivers,

vacuum pumps, carbonic-acid gas and high-pressure compressors are all fully described. This catalogue is issued for gratuitous distribution, and will be forwarded upon application. Address the Clayton Air Compressor Works, office in Havemeyer Building, 26 Cortlandt street, New York.

Blowers and Forges.—The 1899 illustrated catalogue before us is issued by a company that has entered its sixteenth year in the manufacture of blacksmith tools, etc., with what might be termed unparalleled success. This has been reached by strictly following two rules—first, a perfect tool; second, at a price within reach of all. To the already large line a few very valuable additions are being made. The line is believed to be the most complete of its kind manufactured under one control in the world. With a location near the iron and coal fields and a factory fitted up with all the latest improved machinery, especially designed and built for their respective purposes, all the advantages are at hand for the manufacture of iron machinery. All goods are tested and guaranteed. Address the Champion Blower & Forge Co., Lancaster, Pa., for further information.

"Brownhoist" Cranes.—A new crane catalogue of "Brownhoist" cranes is of interest to present or prospective users of such apparatus. This is claimed to be the most complete book of its kind ever issued, for, besides showing standard types of cranes generally made by crane builders, it illustrates and describes many machines that have never before been catalogued. For instance, there may be seen the high-speed balanced cantilever and gantry cranes, an exclusive product. The partial list of users of these cranes shows that they are being shipped to all parts of the world, and many more addresses than those given of leading European concerns are available. The special form of electric overhead traveler presented is also of interest. The cranes here mentioned are made, and the catalogue issued, by the Brown Hoisting & Conveying Machine Co. of Cleveland, Ohio.

The Pennsylvania Agricultural Works.—The products of this plant comprise one of the most complete lines of agricultural implements and machinery produced in the shops of this country as presented in the catalogue before us. This illustrated and descriptive book is clear and concise in its language, and should be in the hands of every cultivator of the soil, whether he be the small or large farmer, or the larger developer of farming lands. The A. B. Farquhar Co., Limited, of York, Pa., has a world-wide reputation with most of the implements and machines presented; each and every one is fully warranted, and the prices are put at the lowest figures consistent with best workmanship and material. The company's increasing trade compels it annually to make considerable additions to keep pace with the demand, and this in itself is an evidence of popularity and excellence not to be gainsaid. Another catalogue of engines, boilers and saw mills is issued by the company, which is also of interest to agriculturists. A '90 price-list accompanies the Farquhar Company's catalogues.

Coal-Mining Machinery.—The catalogue before us is intended to draw the attention of the coal operator to machinery which is being manufactured for the economical production of coal, and the illustrations shown have been selected as representative of this class of machinery. The company issuing this catalogue is prepared to examine mines for the purpose of obtaining data on which to estimate the cost of a plant of the proper size for the production required, and after such examinations to submit propositions for the full and complete equipment, and to furnish and install same under the direction of competent and experienced men. These plants will be installed for the generation and utilization of electricity or compressed air and cover the boilers, engines, dynamos, compressors, wiring, piping, undercutting machines, drills, haulage motors, pumps, fans, etc., these being formed into a plant and turned over to purchasers with machinery in operation. Coal-mining machinery has been developed since 1877, and in 1889 the first machine of any kind for cutting coal to be operated by electricity was placed upon the market by the Jeffrey Manufacturing Co. of Columbus, Ohio. After the introduction of electricity for this class of work improvements rapidly followed one another until in 1893 an electric chain machine was placed on the market. This form of machine is that now in general use, and the ones being built at the present time have been developed from the experience of many years and are models of simplicity, compactness and durability.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Six Per Cent. Bonds.

An issue of 6 per cent. gold bonds on the property of the United States Flouring Mill Co., offered for sale elsewhere in this issue, is attracting considerable attention in investment circles. The amount offered for sale is \$4,500,000, and is the balance of an issue of \$7,500,000, of which \$3,000,000 has already been placed. The property includes an extensive flour-mill business, elevators, etc., controlled by nineteen companies in New York, Buffalo, Syracuse, Milwaukee, Minneapolis and elsewhere. The company represents a total daily output of 39,000 barrels and a storage capacity of 2,272,000 bushels. It is estimated that the value of the property on which the bonds are issued at a conservative estimate is \$16,000,000. It has been thoroughly examined by experts, and this amount is the result of their investigations.

The Texas Bankers.

The Texas Bankers' Association at its recent annual meeting at San Antonio heard a number of papers read on subjects of general interest to the association, and elected the following officers for the ensuing year: President, George E. Webb, San Angelo, Texas; vice-presidents, D. F. Downs, Temple, Texas, and H. P. Hilliard of Austin, Texas, and secretary, E. G. Voiers of Forney, Texas. The following delegates were elected to attend the convention of the American Bankers' Association: C. E. Dunlap, Waxahachie; C. F. Smith, McGregor; J. N. Brown, San Antonio; J. J. Cannon, A. P. Wooldridge, Austin, and T. J. Grace, Galveston.

Large Dividend Payments.

The Portsmouth Water-Front Land Co. of Portsmouth, Va., announces a dividend of \$50 per share. This company, which secured control of a large frontage on the harbor some time ago, has disposed of enough of its property to pay its stockholders \$460 a share in dividends, although the par value of the stock is but \$200 a share.

Another land company at Norfolk which has been very fortunate is the Pinner's Point Land Co., which has declared a dividend of \$60 per share, making a total amount of \$85 per share in dividends thus far paid since its formation.

New Corporations.

A new bank is being organized at Mullins, S. C., with \$25,000 capital.

The Home Bank has been formed at Waverly, Tenn., with \$25,000 capital.

M. B. Shelton and others are interested in forming a new bank at Scottsboro, Ala.

M. Cohen and others of Nashville have organized the American Loan Co. in that city.

W. F. Roberts has been selected cashier of the new bank formed at Wortham, Texas.

The People's Bank has been formed at Harrisville, W. Va., with a capital of \$65,000.

John G. Staples and others are interested in forming a savings bank at Reidsville, N. C.

There is a possibility that a new bank may be opened at Accomack Courthouse, Va., by local business men.

The Farmers and Merchants' Bank has

been formed at Amos, W. Va., with \$25,000 capital, by E. A. Yost and others. Edwin G. Darling and others have formed the Grindon Building and Loan Association at Baltimore, capitalized at \$312,000.

The National Trust Co. has been organized at Washington, D. C., with \$150,000 capital stock by D. S. Fletcher and others.

The Columbian Investment Association, recently organized at Newport News, Va., is capitalized at \$25,000. F. J. Samson is one of the directors.

The City Bank has been chartered at Newport News, Va., with \$50,000 capital. R. P. Orr is president, J. W. Elliot, vice-president, and D. M. Ausley, cashier.

Henry B. Wilcox, H. A. Orrick and others of Baltimore have formed the Queenstown Savings Bank to do business at Queenstown, Md., with \$5000 capital.

The Petersburg Beneficial Association, recently formed at Petersburg, Va., will do an insurance business with \$50,000 capital. William H. Layton is one of the directors.

B. Johnson is president, Harvey J. Johnson, vice-president, and E. S. Emmert, secretary and treasurer of the Fidelity Savings Association, recently formed at Houston, Texas.

Hon. William T. Malster has been elected president of the Atlantic Trust & Deposit Co. of Baltimore, whose organization was recently referred to in the Manufacturers' Record. The company is capitalized at \$1,000,000, with a surplus of the same amount.

The Beaumont National Bank, recently organized at Beaumont, Texas, has elected the following officers: Dennis Call, president; Thomas Langham, vice-president; D. A. Duncan, cashier. The bank expects to begin business by the first of June.

New Securities.

Local parties have taken the issue of \$60,000 in bonds of Bedford City, Va., at par.

The city of Jackson, Miss., will issue in all \$20,000 worth of bonds for sidewalks. The mayor will give further information.

The mayor may be addressed relative to the proposed issue of \$30,000 in bonds which has been offered by Elizabeth City, N. C.

The Tarboro Cotton Manufacturing Co. of Tarboro, N. C., has decided to issue \$100,000 in bonds for an addition to its plant.

The town of Oxford, Miss., has voted in favor of issuing \$20,000 in bonds for sewerage purposes. W. B. Cowen is mayor.

The town of Brookfield, Mo., has voted in favor of issuing bonds for water-works purposes. B. F. Howard may be addressed.

The issue of \$17,500 in 5 per cent. bonds of Lake Providence, La., will be sold on June 1. G. M. Franklin, mayor, may be addressed.

The town of Trenton, Tenn., has decided to sell \$2500 worth of 6 per cent. bonds for improvements. Address the town clerk.

The city council of Tusculum, Ala., has voted in favor of issuing \$20,000 worth of 5 per cent. refunding bonds. Address the mayor.

The city of Wilmington, N. C., has sold \$150,000 in bonds, bearing 4 per cent. interest, to E. H. Rollins & Sons of Boston at a premium of \$2200.

The town of Louisburg, N. C., will vote June 14 on the question of issuing \$30,000 in bonds for improvements. W. H. Yarborough, Jr., is mayor.

The board of education of Memphis, Tenn., has voted in favor of issuing \$30,000 in school bonds. They will bear 4

per cent. interest. James E. Beasley may be addressed.

Jefferson county, Tennessee, will vote June 1 on the question of issuing \$100,000 in bonds authorized by the legislature. Address the county court.

S. S. Fletcher, city clerk, will receive bids until May 22 for the issue of \$20,000 in bonds to be sold by Huntsville, Ala. The bonds will bear 5 per cent. interest.

The city of Rocky Mount, N. C., will receive bids until June 6 for an issue of \$40,000 in 4 per cent. bonds. T. T. Thorne, city clerk, may be addressed.

The bonds to be issued by the city of Biloxi, Miss., will amount in all to \$40,000 and bear interest at 5 per cent. The town clerk will give further information.

Person county, North Carolina, will issue \$20,000 of 6 per cent. bonds. Proposals will be received for them and opened June 5 by W. I. Newton, commissioner, Roxboro, N. C.

The Maryland Casualty Co. of Baltimore has determined to increase its capital from \$500,000 to \$750,000, which, it is stated, will make it the largest corporation of the kind in the world.

W. C. Ervin at Morganton, N. C., may be addressed relative to the issue of bonds which will soon be placed on the market. The issue amounts to \$5000, and will bear interest at the rate of 6 per cent.

The stockholders of the Realty Trust Co. of Baltimore have ratified the decision of the directors to increase the capital stock from \$500,000 to \$1,000,000 and the surplus from \$125,000 to \$250,000.

An election will be held in June or July to settle the question of a bond issue for the township of Wadesboro, N. C. The amount is \$25,000, and the proposed interest rate is 6 per cent. J. A. Little at Wadesboro may be addressed.

There is a probability that Marshall county, Alabama, will again advertise for bids on improvement bonds, as the proposals thus far received have been rejected. The board of commissioners may be addressed at Guntersville, Ala.

There is a possibility that the city of Wilmington, N. C., will purchase what is known as the Brunswick Ferry, across the Cape Fear river. The idea of issuing \$12,500 in bonds is now being considered for the purpose.

H. H. Smith will receive bids until May 22 for the issue of \$50,000 in 4 per cent. bonds to be sold by St. Joseph, Mo.

F. L. Wier, mayor of Starkville, Miss., will receive bids until June 5 for the issue of \$14,500 in 5 per cent. bonds for improvements.

The recent sale of bonds of Morgan county, Alabama, to Cleveland parties has been declared void, and they will probably be again placed on the market. The amount represents \$265,000, and bears 4½ per cent. interest. The county commissioners may be addressed at Somerville, Ala.

Dividends and Interest.

The First National Bank of Baltimore has declared a semi-annual dividend of 3 per cent.

The City Savings Bank of Baltimore has declared an annual dividend of 3½ per cent.

The Consolidated Gas Co. of Baltimore has declared a semi-annual dividend of 2 per cent.

The Alexandria Water Co. of Alexandria, Va., has declared a dividend of \$2.50 per share.

The American Spinning Co. of Greenville, S. C., has declared an annual dividend of 8 per cent.

The Washington (D. C.) Gas Co., it is announced, will declare a dividend of fifty cents per share.

The Wadesboro Cotton Co. of Wadesboro, N. C., has declared a semi-annual dividend of 3 per cent.

The Greenwood Cotton Mills of Greenwood, S. C., has declared a semi-annual dividend of 4 per cent.

The Lagrange Cotton Manufacturing Co. of Lagrange, Ga., has declared an annual dividend of 7 per cent.

The Poe Manufacturing Co. (cotton) of Greenville, S. C., has declared a semi-annual dividend of 3 per cent.

The Georgia Southern & Florida Railroad Co. announces a dividend of \$2.50 per share on its first preferred stock.

The Kentucky Wagon Co. of Louisville, Ky., announces a quarterly dividend of 1½ per cent., in addition to an extra dividend of 1 per cent.

The Wilmington Cotton Manufacturing Co. of Wilmington, N. C., has declared a quarterly dividend of 1 per cent. and an extra dividend of the same amount.

The King's Mountain Manufacturing Co. (cotton) of King's Mountain, N. C., has declared a dividend for the last year of 12½ per cent., besides adding to its surplus.

Financial Notes.

Recent changes in officers of Southern banks are as follows: Charles Russell, elected president of the Big Sandy National Bank of Catlettsburg, Ky.; E. B. Hughes, elected cashier of the Farmers' National Bank of Hillsboro, Texas.

There will be four short stories in the June Scribner's, suitable for the season when the summer travel has just begun.

Two of the best-known American writers, Henry James and Joel Chandler Harris, will be represented, and two new writers, William Allen White (famous for his editorial, "What's the Matter with Kansas?"), and Robert Shackleton, a New York journalist.

The Commercial and Industrial Association of Montgomery, Ala., has elected C. G. Abercrombie, president; John W. Durr, J. B. Gaston and E. B. Josephs, vice-presidents; F. S. Ball, W. M. Hudson, F. D. Cone and John Tullis, Jr., directors.

The Pennsylvania Railroad's New Passenger Cars.

The Pennsylvania Railroad Co. has just placed in service on its principal through trains between New York and Washington and New York and Pittsburg a number of new passenger coaches and combined cars with the latest pattern of wide platform and vestibule. These vestibules, which have been such a prominent feature of the new Pennsylvania and Congressional Limiteds, are the entire width of the cars, and with their large plate-glass doors and windows form excellent observation nooks, besides rendering passage from car to car easy and absolutely safe and comfortable. A train of cars equipped with this improved device has the appearance, and all the actual advantages, of one elongated coach.

The passenger coaches of the Pennsylvania Railroad have long been noted for their comfort and cheerfulness, and the introduction of this new vestibule adds one more appreciable improvement. It marks the constant disposition on the part of the Pennsylvania Railroad Co. to provide for its patrons all the conveniences which a ripe experience can suggest.

Most of these new cars are also provided with lavatories, and equipped with a very successful and satisfactory patent window shade.

Spanish-American War Panorama

is one of the war books which is likely to be in continuous demand. It is a panoramic record of the triumph of Yankee Doodle. The eagle flaps his wings on every page, and "Old Glory" waves around and above every scene. Prominent officers connected with the war are here portrayed, as well as many of the "men behind the guns." Military life is pictured to the eye, from recruiting to

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guard mount and skirmish line. Nor is the ludicrous omitted. The company cook receives the attention due to his importance; the mess is shown; cavalry scenes are given; the hospital arrangements are depicted; the heroines of the Red Cross service are displayed; street scenes in Havana, Santiago and elsewhere are unrolled, the new citizens or subjects (which are they?) of Uncle Sam appear and disappear as the leaves are turned.

In a word, the gazer visits the new localities and sees the tumultuous new life, without the risk or expense of a sea voyage.

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